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Standard Oil Of Indiana Grants 2-Cent Differential On Gasoline

Staff Special

CHICAGO, March 13

THE Standard Oil Co. of Indiana today established a 2-cent differential between the tank wagon and service station prices of gasoline throughout the 11 states that comprise its marketing territory. It accomplished this by increasing the service station price sufficiently to create this margin, and in no case by reducing the tank wagon market.

This action crowns with success the long campaign by the Independent oil industry, headed by the jobbers' associations and the western Petroleum Refiners Association to convince the Standard of Indiana that the establishment of such a differential would work to the benefit of the big company no less than to the advantage of the Independents by correcting evil marketing practices and stabilizing marketing conditions.

With the 2-cent differential established and the practice of loaning or selling pumps to distributors on nominal terms abolished by the Standard, it is expected by President L. V. Nicholas of the National Petroleum Marketers Association to eliminate at least 90 per cent of the marketing confusion due to price cutting and other unethical practices that have prevailed in different parts of the territory for years.

Helps All Retailers

The new policy will be most advantageous to those companies which market their products wholly or largely through garage men and curb pump operators, having few or no filling stations of their own, but it will also, of course, greatly help those companies who market their products through their own stations by giving them another cent margin between refinery and retail price.

One of the most fruitful sources of price wars came through the fact that companies marketing through the garages had a hard time to keep their agents active in selling their products with a margin of only 1 cent. This often led to a company's allowing its selling agents an additional cent, which, when discovered by competitors, led to reprisals and a general price war would be on, in which all the Independents in the district affected would suffer.

Another phase of the situation caused by the narrow margin, which was reaching serious proportions and promised to become even more serious, was the tendency of the garageman, dissatisfied with his margin, to put in bulk storage and go into the oil business himself on a large scale.

In most cases where this was done, the garageman, unacquainted with the intricacies of the oil business, found himself unable to hold the pace with his competitors who were operating exclusively as oil companies and not as a sideline, and he cut prices in a desperate attempt to get the business and realize on the heavy investment he had made in tanks and other equipment.

The efforts of the Independents to sell the Standard on the advisability of the 2-cent differential began last July after the Indian Refining Co. had brought matters to a head by arbitrarily announcing that it would allow a differential of 2 cents to its garage men in the territory where it operated. This was in Chicago and in parts of Indiana and Michigan.

This action was promptly met by the Standard by price cuts to meet those of the Indian. Other Independent jobbers operating in Standard of Indiana territory, and especially in the districts where the Indian was active, met with the Indian Refining Co. representatives at Chicago August 4 at a conference called by the officers of the American Independent Petroleum Association and sought to dissuade the Indian from disturbing the market by persistence in its attitude.

Although deploring the attempt by the Indian to force the hand of the Standard, the concensus of opinion among the Independent refiners and jobbers was that a 2-cent differential should be established and that it would eliminate most of the marketing troubles then prevailing. At that time the Indian officials agreed not to go further with their policy, although they did not recede from their positions in the places where they had put the 2-cent differential in effect until some months later.

Committee Sees Standard

At that meeting a committee of Independents was appointed which included George N. Moore, president of the Shaffer Oil & Refining Co., Secretary John D. Reynolds of the American Independent Petroleum Association, and Secretary E. E. Grant of the Independent Oil Men's Association, to wait on the Standard officials and try to get their consent to a final 2-cent differential all over the territory.

Secretary H. G. James of the Western Petroleum Refiners Association gathered a mass of data showing costs of marketing, overhead and other factors which was incorporated in a brief which was drawn up and presented to the Standard. The matter lay quietly for some time but after the amalgamation of the two associations when L. V. Nicholas, president, took active charge of the affairs of the association, he took the matter up again vigorously with the result just attained.

There was considerable debate on the part of the Standard, it is understood, as to whether the differential should be created by cutting the tank wagon to widen the margin or increasing the service station price. It was pointed out to the company

Ohio Standard Sets 2-Cent Differential

Staff Special

CLEVELAND, March 14.—The Standard Oil Co. of Ohio, effective March 15, will reduce the tank wagon price of gasoline 1 cent a gallon leaving the service station price at its present figure. That will establish a 2-cent differential by the opposite method to that adopted by the Standard of Indiana. Price concessions to garagemen and pump operators generally by Independent competitors over the state is given as the reason for the reduction. The tank wagon price is now 21 cents and the service station price 23 cents.

At the same time, a reduction of 1 cent a gallon is made in the tank wagon price of kerosene, bringing it to 13 cents and the service station price of kerosene is increased 1 cent bringing it to 15 cents. This change is of little significance as only a few of the Standard stations are equipped to dispense kerosene and the volume so handled is small.

that a reduction of the tank wagon market would be a severe blow to the already hard-pressed Mid-Continent Independent refiners by disturbing their contracts based on tank wagon prices, and the increase in filling station prices was decided on.

Differential Made Uniform

The move results in an increase of 1 cent a gallon as an average over the territory. In places where fractional tank wagon prices existed and where the increase needed to establish the differential was less than 1 cent the price was increased the exact amount required. At points, St. Louis among them where a 2-cent differential already existed, no change was made.

In Iowa, where considerable confusion has arisen on account of haulage charges made for delivering gasoline from tank wagons on country routes, the tank wagon price was advanced .3 of 1 cent and the haulage charge eliminated.

In other words, a customer located on one of the routes served out of a certain town gets his gasoline now at the same price that is paid by the customer in the town and this source of confusion is eliminated. The increase in the general tank wagon price is designed to cover the extra expense of country delivery. It is expected that this policy may be extended to the other states in the territory.

The last change in the Standard of Indiana tank wagon prices was an advance of 1½ cents on Nov. 9, 1921.

Son Follows Father As Clark Co. Head

Staff Special

CLEVELAND, March 13.—Just 40 years after the late Fred G. Clark founded the Fred G. Clark Co., refiners and compounders, his son, also Fred G. Clark, became president of the company. The son was elected at the annual meeting a few days since. W. E. Wall, a cousin of the Clarks, who has been president, was elected chairman of the board of directors.

Directors of the Clark company are: Mr. Wall, Mr. Clark, F. I. Harding, Frank H. Ginn, E. W. Moore, Col. U. G. Lyons, C. C. Bellows, George L. Bodie and Sherman S. Clark. Officers besides Mr. Clark are: Mr. Bodie, vice president, S. S. Clark, secretary, J. A. Wainwright, treasurer, and F. D. Davis, auditor.

The elder Clark died in 1899 and the new president did not enter the business until 10 years ago after his graduation from college. His brother, S. S. Clark, became affiliated with the company in 1914 and was chosen secretary in 1920.

Officers reported that business was gradually picking up and that the farm trade was just beginning to come in for this year. The company sells only to jobbers, and purchasers by these indicated a slow but gradual betterment in the smokestack trade and industry generally. Good prospects also were reported for the Conewango Refining Co., a controlled corporation.

George W. Ahl has been placed in charge of the eastern headquarters at 291 Broadway, New York.

Charge Rule Relating To Loading Is Unjust

Staff Special

TULSA, March 9.—The Western Petroleum Refiners Association, through its counsel, Thorne & Jackson of Chicago, on Feb. 16, entered a complaint with the Interstate Commerce Commission against 190 defendant railroads, protesting the enforcement of Rule 35 of the consolidated classification No. 2, I. C. C. No. 15, which relates to loading of tank cars. In brief, the rule provides that a shipper shall pay freight on the full shell capacity of the tank car used unless the shell capacity exceeds in weight the carrying capacity of the car. In the latter case he shall pay freight on the weight capacity of the car. The capacity of the tank dome is not included in the capacity of the tank.

Estimating the weight by the volume, the complaint points out, necessitates considering the oil at normal temperature, 60 degrees F. The space occupied by any volume of oil varies considerably with temperature and in a vast majority of cases, oil is loaded at a much higher temperature than 60 degrees. Some petroleum products can not be handled expediently at a temperature of 60 degrees and in the climate where most oil is produced much of it is never as cool as normal temperature during the whole process of transportation by rail.

The result of this condition is that when oils are loaded at high temperature and allowed to cool, the weight remains the same but the volume diminishes, and the shippers pay freight on much oil which is never actually sold or shipped. In view of the fact that shippers are compelled to load to the capacity of the car, they do not get the benefit of the discrepancy when oil is loaded at a temperature below normal. The complainant asks for a more equitable ruling as to estimated weights of oil shipped in tank cars.

Beaver Refining Co. Notes Business Gain

Staff Special

PITTSBURGH, March 11.—Reorganization of the Beaver Refining Co. has been effected with C. C. Henderson, vice president of the Alleghany Steel Co., and director in several banks of Pittsburgh, as president; H. L. Warren, vice-president and general manager; William M. McKelvy, treasurer, and L. L. Long, secretary. With the exception of Mr. Henderson, all the officers have been with the Beaver for some time.

The new board of directors consists of C. C. Henderson, H. L. Warren, James O. Carr, W. M. McKelvy and F. H. Stevens.

General Manager Warren says plans are being made to resume operations in the company's plant, located at Oak Grove, Washington county, Pa. The petroleum plant, which has a capacity of more than 3,000 barrels monthly, will be opened in the near future and later, when certain improvements now under way are finished, the lub plant will resume operations. The company has a supply of crude in Washington county assured.

The business of the company has been 200 per cent better the past month than in the preceding 30-day period, Mr. Warren says. He attributes the greater part of this to the systematic manner in which the customers are being handled. Card-index of the buyers is gone through regularly and at the time it seems reasonable to expect an order, salesmen get in touch with the customer. Close attention is being paid to the small accounts and a number of these have been added recently. The company is also doing considerable advertising in the country press of western Pennsylvania.

* * *

PITTSBURGH, March 11.—Harvey N. Dauler, former presidest of the Beaver Refining Co., has opened offices in the Diamond National Bank building here as marketer of petroleum and its products. Mr. Dauler resigned his place with the Beaver on February 1.

Willock Would Give Congress a Holiday

Staff Special

PITTSBURGH, March 10.—Among oil men's organizations in which active interest is maintained by its members, the Pittsburgh Petroleum Club should be placed high on the list.

Organized several months ago, it is now old enough to be definitely classed as a going concern. Meetings are held each Friday noon in conjunction with a luncheon at the Fort Pitt hotel. Visiting oil men are welcomed and made to feel "one of the gang."

At the meeting today, there were 28 present, including several guests. Harry Willock, of the Waverly Oil Works, was asked to speak on the subject of gasoline and after a brief discussion of the outlook as he views it, discussion of this topic became general.

Mr. Willock expressed the opinion that much of the talk on the bearish side is not warranted, but that there is the greater danger of being over-enthusiastic. He sees the recovery in the oil industry as dependent solely upon the restoration to good health of the industrial and agricultural world, with considerable emphasis upon the latter. This, he believes, will be the long climb, with improvement being effected by small, and at times, almost imperceptible degrees.

The gasoline business of this year should be as good as it was last year, was the general opinion of the members who spoke. As to other products, they were pretty well agreed with the views of Mr. Willock.

One of the retardants at this time, said Mr. Willock, is congress. Something similar to a naval holiday for the statesmen, he believes, would be of vast benefit.

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Dow Shows Concrete Cases Where High Rates Cut Rail Revenue

WASHINGTON, March 13

By A. E. Heiss
STAFF REPRESENTATIVE

ARGUMENTS on the Interstate Commission's general freight rate inquiry, begun early in December, were completed March 13. It is the only freight rate case in which the whole oil industry ever took part. Usually California in a freight rate sense, is not a part of the country at all. The units in that field are so large they have have had to depend on rail transportation for so comparatively small a part of their transportation that bringing anything about freight rates to the attention of authorities in Washington has been among the things the Californians seldom have had to think about. Most of the railroad rates, too, have been wholly within the state, which was another reason for keeping away from Washington.

However, in this case the Californians took part because in the advances made by the railroads restricted them to very narrow limits. They could carry their products up and down the coast in tankers or from the wells to the refineries in pipe lines, without paying much attention to the charges they would have to pay when they started their products into the interior. But the increases that have been made since 1918 and the sharp competition in so-called neutral territory produced by the large supply of refined products, put them into this case as prominently almost as the refiners of the Pennsylvania and West Virginia crudes, than whom there have been no more diligent inquirers for more reasonable rates.

Loses War-Time Size

Fayette B. Dow, attorney for the American Petroleum Institute, who led the industry in its fight followed, in his argument, the general propositions laid down when the witnesses for the industry took the stand. The most important of those general propositions was that the oil industry had lost its war-time swollen proportions while railroad freight rates had not, and that it was time they should come down. The California position was not exactly that, although reduction in the general level of rates would benefit it. Its complaint was that the percentage increases, by reason of the long hauls in the far west, had narrowed its market, because, even as important as oil is in all human affairs, there comes a point where people will have to get along without it because they can not use it profitably.

The point Mr. Dow however, sought to drive home with compelling force was that the railroads, by reason of their rate increases had forced the industry to abandon their rails and consider how it might distribute its products without depending upon them. No one ever claimed that the oil shippers ever paid less than a reasonable rate for the service performed for them. As a matter of fact, considering that the industry furnishes the tank cars, the tracks and the loading racks, it has paid and is paying a much greater part of the transportation expense than any other producer of a commodity widely distributed in large volume.

The carriers, Dow pointed out, by their rate adjustment, forced Mid-Continent oil to move southward to the Gulf, for refining either there or in the New England states. It is cheaper, according to his calculation, for the refiner seeking to distribute Mid-Continent products, in Cleveland, for instance, to send his products via pipe line to the Gulf, thence by tanker to the Atlantic, and then by rail to Cleveland, than to undertake to send it all rail from Tulsa to Cleveland. As a matter of fact, he calculated that product could be shipped in that way to a point west of Cleveland, before it met on equal terms, the product coming all-rail from Tulsa. The heavy all-rail rates from the Mid-Continent, he said, caused three refineries to be built in New England within the last few years. It was no answer, he said, for the railroads to say the Mid-Continent refiner, being able to ship in that way, had no reason to complain about rail rates from his refinery.

Has Just Complaint

The Pennsylvania refiner also had a just complaint, he said, against the railroads for having arranged their rates so that he could not distribute even in New England in competition with the refiners in that part of the country able to bring their crude from the Gulf ports by tanker. Railroads are not free, having been chartered to perform a specific service for just and resonable rates. They are common carriers of all kinds of freight if they perform their public duty.

In making the assertions about the rates, Mr. Dow, of course, was quoting the facts put into the record by the witnesses, abstracts of whose testimony has been published in **National Petroleum News.** But not all facts set forth by the witnesses were used in those abstracts because at the time of their submission their significance was not obvious. In arguing the case Mr. Dow sought to put the emphasis where it should be to the end that the rate-making body might know upon what grounds the industry had asked for substantial reductions, which in the estimation of competent men, would give the railroads not less, but more revenue.

The oil industry was able to give facts to show how the roads are losing business on account of the high rates. In his argument Dow assembled the facts in a logical sequence so the commissioners could know the answer the industry had made to the demand and the railroads for evidence that they were being hurt by the advances of August 26, 1920, technically known at Ex Parte 74.

Less Shipped by Rail

After that advance was made, Mr. Dow said the industry turned to the other means of transportation with the result that while the production and consumption of petroleum and its products increased in 1921 over 1920, a smaller quantity was shipped by rail. One of the other means of transportation was the tank steamer. In his summary, Mr. Dow said:

"Charter rates for steamers ranging in size from 6,000 to 10,000 tons, from Gulf ports to Atlantic seaboard, have undergone a very marked deflation since the early part of 1919. At that time they were $8 to $10 per ton. The present prevailing rate is $2.10 per ton, or an average of 32½ cents per barrel, equalling 9 cents per 100 pounds, or 63-100 of 1 cent per gallon.

"One oil company at Marcus Hook, Penna., received all-rail from refineries in Oklahoma 1,780 cars in 1917, 2,627 in 1918, 227 in 1919, and 367 in 1920 which moved prior to Ex Parte 74. This traffic has all been lost to the rail lines. This same company handles in 1920, after August 26, from refineries located on the Gulf of Mexico, by steamers to its Markus Hook plant, 26,000 tons of oil, equalling 788 cars.

"One of the largest distributing companies operated 536 stations in the southeast on Oct. 31,1920, of which 4266 were served all-rail, 108 by water and rail, and 2 all-water. A year later out of 552 stations, 273 were served all-rail, 276 by water and rail and 3 all-water.

"The same company has compared the tonnage of petroleum products handled by these means of transportation in five southern states. Taking Georgia, for example, in October and November, 1920, 90 per cent was shipped all-rail, 10 per cent by water and rail. In the corresponding months of 1921, 31 per cent was shipped all-rail, 65.1 per cent by rail and water, 3.9 per cent all-water. The figures in this comparison for the five states are these: 1920, all-rail 79.7 per cent; rail and water 18.2 per cent; all-water 2.1 per cent; 1921, all-rail 58.3 per cent; rail and water 39 per cent; all-water 2.7 per cent. This is 'representative of efforts made by all of the large companies in that territory and, in fact, of efforts by petroleum companies in all territories wherever it is possible to reduce the cost of transportation by going into the transportation business themselves.'

Deliver by Barge

"One company reports for the year 1920 part of its deliveries of petroleum products by barge to points in official classification territory from Maine to Illinois amounting to more than 200,000 tons, and says:

" 'This would equal 6,796 tank cars, at 30 tons per car. To put this in another way, because of the excessively high short haul petroleum rates by rail, or because the railroads have not recognized competitive methods of transportation in adjusting their short haul petroleum rates, they have lost wholly or in part the shipment of 6,796 loaded tank cars.'

"A company which does a large business in the southeast has substantially readjusted its whole transportation service by the establishment of a larger number of bulk stations which can be reached by water facilities. A study of the old and new movements to 85 stations located in one state shows it has reduced an average rail haul of 708.6 miles to an average haul of 218.3 miles. It summarizes one result of this change by saying:

" 'The loss to long haul rail carriers on shipments to these 85 points approximats 1,000 tank cars of 50,000 pounds each for the first six months of this year (1921).'

"Another company formerly shipped 75 to 100 tank cars of gasoline per week (3 to 4 solid train loads), from an interior refinery to a single consuming center. All of this gasoline is now moving by barge.

"One of the refining companies shipped by barge during the year ending July 1,

1921, from Bayonne, N. J., to points in Massachusetts, Connecticut, New Jersey and Pennsylvania, 100,621 tons of petroleum products, the equivalent of 3,404 tank cars. All of these shipments displaced former rail movements. The present rail rates to the destinations named show an increase of from 97 per cent to 267 per cent over the rates in effect March 1, 1918.

"During 1918, 1919 and 1920, one of the producing companies located in Texas was shipping crude oil by rail from Southern Texas to refineries located in eastern Canada, at the rate of about 125 to 150 tank cars per month. In April, 1921, this movement stopped altogether.

"Since that time, the oil has been shipped by pipe line to a Gulf port, thence by tank steamer to Halifax and Montreal. The first six cargoes aggregated 332,173 barrels, the equivalent of 1,743 tank cars of 8,000 gallons each.

"Instances of diversion of the petroleum traffic from the rails to movements by water, by pipe line, and by motor truck could be cited at great length. Many of them are referred to in the testimony of Mr. Reed and Mr. Porter. It would serve no useful purpose to repeat them here. In the course of his testimony Mr. Reed made the statement: 'The present price of rail transportation is not only a constant invitation to avoid rail movements wherever it is possible to use other more economical metrods of transportation, but in many cases the high rail rates make it impossible to use that method of transportation.' This analysis of the situation, approved as accurate by Mr. Porter, shows that the carriers are maintaining their present charges at their peril. It is to their best interests that substantial reductions be speedily made."

As to what reduced rates may be expected to do, Mr. Dow showed what had recently happened. He said:

"One of the largest exporting companies shipped from Kansas, Oklahoma and North Texas, to the Gulf ports, during 1921, an average of 379 cars per month.

"Effective January 5, 1922, the export rate on this movement was reduced from 32½ cents to 24½ cents, removing Ex Parte 74 advance.

"From Jan. 5 to Feb. 5, 1922, the same company shipped from the same territory to New Orleans, 2,194 cars, an increase over the average of 1921 of 1,815 carloads or 479 per cent.

"The establishment of a reduced export rate from Casper and Graybull, Wyoming, to the Gulf resulted in a new movement of 596 cars in the first month after the tariff became effective.

"One of the larger oil companies, previous to the war moved large quantities of petroleum products by rail between Duluth, Minn., and Superior, Wis. At that time the rate was 2 cents per 100 pounds. This was advanced successively to 4, then to 5, then to 8½, then to 11½ cents. The oil company after investigation found that the cost of moving this oil by truck—including in addition to operating cost, maintainance, depreciation and return on investment, was approximately 4.9 cents per 100 pounds. Consequently a line of trucks was established. Later the Northern Pacific found that it had lost practically all of this traffic between Duluth and Superior. The officials went to the oil company to ascertain why this traffic had left the rails. The facts were explained and the railroad officials asked what rate would be necessary to regain the traffic. The reply was 5 cents per 100 pounds. A rate of 7 cents was established. This rate was later reduced to 5 cents and the traffic was then restored to the rails.

"There is every reason to believe that a substantial reduction in railroad rates on petroleum and its products—following lines of our recommendations—would stimulate rail movement in all territories and result in a direct benefit no less to the railroads than to the industry and the general public."

As to what will be the outcome of the case, the guess of a man who never heard of a rate case probably would be as good as that of the supposed expert. It is regarded as a certainty that there will be no general reduction, that is no reduction on all commodities. There has been talk about a reduction on "basic" commodities. Nobody knows exactly what a basic commodity is. There has been much talk about a reduction on coal. In fact nearly every witness for a shipper when pressed to make a choice for reduction, other than on the commodity in which he was particularly interested, said he preferred a reduction on coal, or in one or two instances on "fuel." By the weight of the evidence, coal would be placed in every list of the things on which reductions seem probable.

It is not certain, however, the commission will order any reductions. Its members, before cutting rates would have to be satisfied that cuts would increase and not decrease revenue.

Aside from the petroleum witnesses, no industry was able to show that reductions in rates had been followed by an immediate increase in the volume of business. Were the commission to take the railroads at the implied promise of their attorneys, it would order a reduction in the rates on petroleum and its products, but nobody has any idea as to how the commission will handle the case because it is wholly novel. It is the first inquiry in which every shipper, as pointed out by Thorne, was asking for a reduction in rates. There have been cases in which a large number of shippers have asked for cuts, but this is the first time there has been a general inquiry as to whether rates ought not to be reduced. All other general inquiries, beginning with 1910 and ending with 1920, were to see whether the contentions of the railroads that they were entitled to higher rates, were well founded. In that 10-year period the railroads lost only two cases.

In recent months shippers have won decisions on live stock, hay and grain and southern hardwood, so a partial victory for them in this case would not be surprising.

Sales Official Killed In Fall Down Shaft

Staff Special

TULSA, March 11.—John F. Noble, secretary-treasurer of the Charles F. Noble Oil Sales Co., was killed March 9 when he fell from the eighth floor down an elevator shaft of the Mayo building here. From an investigation made by the owners of the building, it seems that Mr. Noble attempted to leave the car after it had started upward from the eighth floor but fell under the car and down the shaft.

Mr. Noble, who was 23 years old, was the son of Charles F. Noble, organizer of the Charles F. Noble Oil and Gas Co., and was himself an oil-producer, with offices at 826 Kennedy building. He was married, and lived at 1831 S. Quincy avenue. Besides his widow, he is survived by his parents, a brother and two sisters.

Funeral services held this afternoon from the home of his parents. Burial was in Rose Hill cemetery.

Gulf Coast Shipments Decline In February

HOUSTON, March 11.—Coastwise shipments of refined petroleum products declined slightly during February as compared with January, the total falling from 3,860,583.79 barrels or a daily average of 124,534, to 3,241,757.28 or a daily average of 115,777. Exports of refined products at Gulf ports increased from 1,638,695.22 barrels or a daily average of 52,764.36 barrels in January to 1,841,623.8 barrels or a daily average of 65,772.27 in February. These figures are based on the reports of the diverse companies but Magnolia makes no distinction between its coastwise and export shipments.

Shipments of crude oil along the coast decreased from 1,666,517.37 barrels in January to 1,496,917.11 in February. The daily average receded from 53,758.63 barrels to 53,461.32 in February. Exports of crude increased from 18,373 barrels to 65,703. The accompanying table shows the shipping report of each company.

Comparative Gulf Coast Water Shipments

(All figures in barrels of 42 gallons)

Company-Port	Coastwise Refined January	Coastwise Refined February	Export Refined January	Export Refined February
Standard of Louisiana, Baton Rouge	661,524.00	599,911.00	343,097.00	686,171.00
The Texas Company, Port Arthur	677,782.	432,738.00	511,547.00	369,490.00
Gulf Refining Co., Port Arthur	1,830,948.12	1,803,454.98	379,834.22	433,751.76
Magnolia Petroleum Co., Beaumont	642,807.38	343,266.50*	.....	.....
Sinclair Refining Co., Houston	7,522.29	33,386.80	47,760.00	32,806.04
Galena Signal Oil Co., Houston	60,000.00	29,000.00	.....	.....
Union Petroleum Co., Westwego, La.	.....	.....	365,457.00	319,405.00
TOTALS	3,860,583.79	3,241,757.28	1,638,695.22	1,841,623.80
	Coastwise Crude		Export Crude	
Standard of Louisiana, Baton Rouge	179,013.00	269,139.00	.....	65,703.00
The Texas Company, Port Arthur	56,454.00	37,772.00	18,373.00	.....
Gulf Refining Co., Port Arthur	67,452.94	.....	.....	.....
Magnolia Petroleum Co., Beaumont	79,425.87	78,017.11*	.....	.....
Sinclair Refining Co., Houston	29,468.00	.....	.....	.....
Sinclair Refining Co., Mereaux, La.	32,224.00	.....	.....	.....
The Sun Company, Sabine Pass	367,182.00	355,167.00	.....	.....
Humble O. & R. Co., Texas City	789,567.00	563,404.00	.....	.....
Vacuum Oil Co., Texas City	65,730.56	193,418.00	.....	.....
TOTALS	1,666,517.37	1,496,917.11	18,373.00	65,703.00

*Magnolia makes no distinction in reports between coastwise and export shipments.
**268,649 barrels Ranger crude; 6 8,881 barrels West Columbia crude; 163,115 barrels Mexia crude; 62,559 barrels Hull crude.

Last Minute News From Oil Fields

Shoot Third Pay In Amerada's Brock Test

Staff Special

TULSA, March 13.— Attempts to to develop production in the territory east of Ardmore have received a setback in the completion of the Cook & Athey No. 1 Pollock, located in the northwest corner of 11-5S-2E, which is in salt water at a total depth of 3107 feet and from which the casing is now being pulled preparatory to abandonment. This well was started in 1919. It passed through an oil sand with a small showing at 410 feet and a gas sand at 1300 feet. At 2800 feet a stratum of asphalt was encountered about 150 feet thick.

In the Brock field south of Ardmore, Carter county the Amerada Petroleum Corp. shot with 80 quarts the second sand in its No. 1 Sammy Baptiste located in the southeast quarter of 20-5S--1E, this being the second shot tried in the well, the first shot 35 quarts having failed to increase the production. This sand was encountered from 1371 to 1428 feet, the third and lowest sand in the well having been found at 1559 feet. The well is producing from 80 to 100 barrels, presumably from this second sand as there are 150 feet of cavings in the hole between it and the lowest sand.

It is not definitely known yet what effect the second shot had on the production. The same company's No. 2 on the same farm is drilling at 1330 feet and is producing 50 barrels from sand passed through from 1232-1262 feet. The Amerada is rigging up its No. 3 Baptiste, located in the southeast corner of the northeast fourth of the southeast quarter of Sec. 20.

In this vicinity the Westheimer & Daube No. 1 fee, located in the northwest quarter of the southwest quarter of Sec. 21 is on top of the sand at 1468 feet and is running the 8-inch casing.

Line To Be Laid From Lyons Pool To W. Tulsa

Staff Special

TULSA, March 13.—Ralph P. Kistler, it was announced Saturday, heads a group of Tulsa capitalists in the new $1,000,000 project called the Consolidated Pipe Line Co. The primary purpose of the company is to build a four-inch pipe line from the Lyons pool in Okfuskee county, to West Tulsa. It is more than 50 miles to West Tulsa from the pool which is six miles west of Henryetta in 11-11.

Consolidated is a close corporation capitalized at $1,000,000 in shares of $100 par value. Estimates place the probable cost of constructing the proposed line at $250,000. Pipe had been bought for the line but all contracts for right of way had not been closed today. Offices are being opened on the fourth floor of First National Bank building here.

Besides President Kistler, those interested in the company are: R. W. Coleman, vice president, who is a state senator in Kansas; E. L. Robinson, treasurer, who is the president of Allied Refining Co., of Tulsa, and Matthews Nelson, secretary, who heads the Coleman-Nelson Corp. There are several other stock holders.

Mr. Kistler is a brother of W. L. Kistler, president and chairman of the board of the Producers & Refiners Corp.

It is announced that the pipe line company is independent of the Producers & Refiners Corp., the only connection being friendly relations and the consanguinity of the two presidents. Officials say they expect the exceptionally good grade of crude obtained in 11-11 will meet a ready market in West Tulsa at most any of the seven refineries there as it has high gasoline contents.

Gulf To Extend Pipe Line Loops In Texas

Staff Special

HOUSTON, March 14.—Following the recent announcement that the Gulf Pipe Line Co. is looping its system in Oklahoma to the Red river, it has become known that 65 miles of loops will be laid in Texas between the Red river and its Port Arthur works. Loops near Lufkin on a part of the system leading out of north Louisiana will increase the capacity of its 8-inch line by about 5,000 barrels daily. The production section of this issue of **National Petroleum News** carries details of a large amount of steel storage being constructed by Gulf.

Well Indicates Pool In Webster Parish, La.

SHREVEPORT, March 14.—Webster parish as a producing oil territory has been evidenced by the fact that several heads of oil of the same gravity as the Haynesville crude appeared when the Sinclair Oil Co. preparatory to resuming work on it, reopened the Mayfield well which last September blew in as a gasser with oil spray in sec. 20, about five miles northeast from the Gleason No. 2. Webster lies between the Haynesville, Home and Bellevue districts, in Claiborne and Bossier parishes, respectively.

HOUSTON, March 14.—Jones & Buchanan of Tampico are reported to be moving a rig to a site near Guerrero, Tamaulipas, which is across the Mexican boundary from Zapata county, Texas, for a test. It is in wildcat territory where geological structure is supposed to exist and where it supposedly extends across a part of Zapata county into Mexico.

Red Bank Co. Brings In 1350 Barrel Well

Staff Special

TULSA, March 13.—An important completion and one that likely will result in a great deal of activity in the vicinity of the No. 2 well of the Red Bank Oil Co. on the Newblock farm, located in the northeast corner of the southwest quarter of the southwest quarter of section 9-16-8 in a locality about midway between Shamrock and Bristow, Creek county. This well found the Wilcox sand at 3536 feet and is still in the sand at 3622 feet, a remarkable thickness for this sand stop.

Making approximately 400 barrels natural initial production, the well was shot with 200 quarts and made 350 barrels the first 24 hours after the shot. The oil is of better than 42 Be. gravity, and is said to be bringing a premium of 50 cents over the market price. It is being run by the Illinois Refining Co. Well No. 1 on this farm was completed in 1919 and was a 25,000,000-foot gas well in the Tucker sand.

In the southeast corner of the west half of the northwest quarter of section 9, the Red Bank's No. 1 Jones is also showing for a big well and is on top of the Wilcox at 3513 feet. This well is now shut down for tankage and waiting pipe line connections, and will probably be drilled in the latter part of this week.

These wells are located on a structure known as the Catfish anticline, originally located by A. E. Fath, of the United States Geological Survey, and afterward checked by F. Julius Fohs, who was at one time connected with the Red Bank Oil Co. Persistent efforts to discover oil on the structure have been made since the completion of the gas well mentioned before, mostly by the Red Bank and to date there have been drilled more dry holes about 3600 feet deep, two Tucker sand wells and three Wilcox wells. Last October the Red Bank company completed its No. 1 Ada Myers with an initial production, after shot, of 900 barrels. This well is located in the southeast corner of the northwest quarter of section 9.

The Red Bank Oil Co. owned in fee the Newblock 40 acres and the royalty on the 40 acres adjoining on the north as well as 600 acres of leases on or adjacent to the structure. Material is now being moved in to commence Newblock No. 3 and three wells on the Taylor farm, also in the southwest quarter of section 9.

Other wells drilling in the immediate vicinity of this development include those of the Prairie, Texolean Oil Co., Carter Oil Co., and Homer T. Lamb, the Texolean Test in section 9 having now reached a depth of 3100 feet.

Twenty-four Per Cent Of Possible Acreage Of Oklahoma Is Producing

By Bess U. Mills
OKLAHOMA STATE GEOLOGICAL SURVEY

The paper of Miss Mills, assistant draftsman for the survey, at Norman, Okla., was presented before the seventh annual session of the American Association of Petroleum Geologists at Oklahoma City and constitutes a statistical guide to the quantity of oil recovered from the areas making up the oil territory of the state. This compilation shows the relation of recovered oil to actually producing territory, which in turn is compared with possible territory.—Editor.

THE purpose of this paper is to give the public a general estimate of the extent of the oil and gas production of Oklahoma. In September of last year there were 172 oil fields listed of the state; to date there have been added to that list 23 new producing areas, making 195 fields in Oklahoma. Thirty eight of the 77 counties are productive and in Okmulgee county alone there are 31 individual areas. A chart summarizing the data on these fields has been compiled by the Oklahoma Geological Survey and a map showing the location and approximate areas of the fields is now available.

Excluding the four mountain areas of Oklahoma, the Ozarks of the northeast; the Ouachitas of the southeast; the Arbuckles of the south central portion; the Washitas of the southwest and other improbable areas, the state may be divided into three productive sections. The chief and largest division of the northeastern area lying wholly in the region of Pennsylvania sediments; the northwestern area lies in the Permian redbed region just west of the Pennsylvanian-Permian line of contact, and the southwestern section includes all the fields of the southwestern part of the state. There remain several small areas scattered through the south and western part of the state but these will not be included in the percentages.

The northeastern area of production, located irregularly between townships 4 north and 29 north and between Ranges 4 east and 19 east consists of 306 townships, or a total of 11,016 square miles; of these 306 townships 247 produce oil, or gas, or both oil and gas in some quantity and of the 247 townships 3331 square miles actually have production. The percentage of production per square miles to the total number of square miles comprised in the northeastern area is 30 per cent.

41 of 63 Productive

The northwestern area, located between Townships 21 north and 29 north and between Ranges 4 east to 4 west consists of 63 townships, or 2268 square miles. Of these 63 townships 41 are productive of oil and gas in some quantity and of the 41 townships a total of 196 square miles actually have production. The percentage of production per square mile to the total number of square miles in the area is eight per cent.

The southwestern area, which is located irregularly between Townships 6 north and 6 south, and between Ranges 1 west and 11 west consists of 66 townships, or a total of 2376 square miles. Of the 66 townships 54 are productive and of the 54 townships a total of 330 square miles actually have production. The percentage of production per square mile to the total number of square miles in this area is 14 per cent.

Combining the northeastern and the northwestern productive areas gives a total number of 13,284 square miles while the total number of square miles actually producing in these combined areas is 3527. The square mile production to the total number of square miles for the two areas is 26 per cent.

Combining the three productive areas of the state, the total number of square miles is 15,660. The total number of producing square miles is 3857. Then the percentage of square mile production for the producing areas of the state of Oklahoma is 24.

An interesting note may be added here. From Sapulpa, in Creek county, south of Beggs, in Okmulgee county, and from Tabor, in Okmulgee county, east to Beggs —are 10 townships which are 100 per cent productive. A few dry holes exist in these townships but as an area there is production in every square mile.

The summarized data of production from the records kept up to date by the state geological survey follows:

There are 4036 sections of the state that are at present productive of oil or gas or both in some quantity; 2227 sections are dry, abandoned or shut down at insufficient depths for lack of funds or for other reasons; 1131 sections are now being drilled as wildcats; 724 sections are active since January 1920 making a total of 6987 sections of land in the state under development. During the period of general shut down in 1921 there were 891 wells drilling and 289 rigs up.

Geologists Draft Code Of Ethics To Safeguard Their Profession

Staff Special

OKLAHOMA CITY, March 11.—Safeguards for the profession of petroleum geology are contemplated in a code of ethics recommended at the closing days session of the American Association of Petroleum Geologists in Oklahoma City, today. This code of ethics which the constitution requires to be voted upon, plank by plank, by mail, was recommended in a committee report adopted in open session. It, with a resolution condeming sporadic correspondence courses on geology and another which deals with requisites to associate membership, is designed to place petroleum geology on a higher plane.

It was pointed out in connection with condemnation of correspondence courses being offered by Wichita (Kans) and Kansas City advertisers that claims made for the courses were impossible of turning out creditable workers. Under the other resolution, college undergraduates who take less than 30 hours' work in geology will not be admitted as associate members by the association. Previously the time allowed had been as low as 20 hours.

Code of Ethics Needed

As set up by one speaker in general discussion that preceded presentation of the proposed code of ethics there was not the need for the set of standards eight or 10 years ago that there is now. Then the profession was not crowded and ethics were so intimately understood that no need for the code existed. Since that time a more or less crowded stage has been reached and numerous accessions from college and university graduates provide timber who should be made acquainted with these standards from the outset.

Among those most active in pushing the code were Frederick G. Clapp of New York, Alexander Deussen of Houston, and Roswell H. Johnson of the University of Pittsburgh, all widely recognized as among the leaders in their profession. These men and others discussed various phases of what constitutes ethics, there having been more or less dispute on some points in other years.

As finally drafted the proposed code deals with the duty of the petroleum geologist properly investigating the propriety of his clients enterprise and not lending himself to questionable use, the upholding of the dignity of the profession, and a stand against the unethical acceptance of commissions from both buyer and seller in a business transaction. In the case of the geologist having a personal interest in property a requirement would be that his exact status should be known to all parties concerned.

First Duty to Clients

The professional man's responsibility to his client is held to be a first duty and a plank provides that where employed by more than one interest that this status be made plain and a proper safeguard taken with respect to character of work done and time exactions.

Data and maps are held to be the property of the employer and no part of a man's work to be retained for subsequent use after leaving the services of his employer or client except that it is pretty generally conceded that information based upon the mind's retention of facts as distinguished from records, does not come within this category.

The code provdes that a member of the association may not buy royalties on leases owned by the company by whom employed unless no policy is involved and he shall have received permission so to do. Exaggeration and sensationalism was frowned upon as well as unworthy enterprises and it was set up that the profession should confine publication of papers to the scientific journals, petroleum periodicals and geological societies and not publish them in newspapers. Giving of credit for work done to all persons coming within the scope thereof, such as co-workers, in making a report, was stressed as essential ethics. Competition by underbidding of fees was frowned upon and protection of the long interest of a client was stressed, together with the point being made that association members should report unethical practices where evidence is conclusive but not on hearsay evidence.

Association Of Petroleum Geologists Elects Wrather President

By Paul Wagner
STAFF REPRESENTATIVE

OKLAHOMA CITY, March 11 WILLIAM E. WRATHER, of Dallas, was elected president of the American Association of Petroleum Geologists at the closing day's business session March 11. The ballot stood 102 for Wrather and 73 for Dr. D. W. Ohern of Oklahoma City. All other officers nominated and without opposition were elected by acclamation.

The business session was devoted largely to affairs of interest within the membership, resolutions of thanks, etc., and in particular a resolution indorsing the continued interest of the Departments of Commerce and State at Washington, in further gathering of data, etc., regarding the petroleum industry of the world. That resolution had to do specifically with the "open door" policy, in which the statement was made that the position of Holland was unaltered, the attitude of France had shown no change but that utterances of Sir John Cadman in this country had indicated a general clarifying of the situation as regards Great Britain's stand.

Detailed discussion on a proposal to state a code of ethics for the association, etc. which was acted upon at this session, is treated upon elsewhere in this issue in a separate article.

Nominations of Officers

Nominations for 1922 officers were made after the business session Friday when it became quickly apparent that Charles E. Decker of Norman, Okla., would be re-elected secretary-treasurer and that Professor Raymond C. Moore of the University of Kansas would be re-elected editor. Decker had the floor to himself and no other name was placed in nomination. Dr. Sidney Powers of the Amerada Petroleum Corp., placed Moore's name up for renomination and Moore countered by nominating Powers. The latter is credited with substantial help to Mr. Moore in editing the association bulletin in the last year or two. Although it meant two candidates were in the field, Mr. Moore's re-election was certain from the first.

W. E. Wrather, whose election as president was generally conceded from the first, was placed in nomination by Jno. A. Udden of the Sinclair Oil & Gas Co., of Tulsa. F. W. DeWolf, state geologist of Illinois, also paid high tribute to the Dallas man in seconding nomination. Wrather is conceded to have been one of the active geologists advancing the legitimate phases of Texas operations over a period of years and it was upon work that he did in Eastland and Comanche counties that was based the drilling of the original wells in the Desdemona field, a part of the black lime producing area of the Central Mineral Belt.

Dr. D. W. Ohern of Oklahoma was nominated for president by Frederick G. Clapp of New York City and was seconded in the nomination by L. W. White of Tulsa, of the Oklahoma Central Oil Co. Max W. Ball, one of the leaders in northwestern development, especially in Wyoming and prospective areas of Utah, was nominated for vice-president without opposition by Roscoe A. Conkling, chief geologist of the Roxana Petroleum Corp. This nomination was seconded by John R. Suman, of the Rio Bravo Oil Co. (Southern Pacific) at Houston.

Secretary-Treasurer Decker reported a healthy financial condition for the association at the Friday afternoon meeting and gave detailed information both as to expenditures and money on hand as well as to affairs more strictly within the scope of the secretaryship.

From the latter report a growth of the association was indicated from 210 members, March 15, 1919, to a total of 767 members, (including those ranked as associate), at the present time.

Opening Session Thursday

Charles E. Hall, representing the Oklahoma City Chamber of Commerce, gave the welcoming speech at the opening session the morning of March 9, President George C. Matson of the Schermerhorn Oil Co., Tulsa occupying his post as chairman. After greetings by Irving Perrine, on behalf of the Oklahoma City Geological Society, Mr. Matson responded briefly.

After these preliminaries the work of the convention was on. A first paper by C. W. Shannon of the Oklahoma State Geological Survey dealt with pre-Pennsylvania rocks encountered in Oklahoma after which he presented before the meeting a geological map of the state. Miss Bess Mills of the state survey gave a paper on the percentage of square mile production in Oklahoma which is reproduced elsewhere in the current issue.

Clyde M. Bennett, vice president of the Louisiana Oil Refining Corp., Shreveport, who was down for a paper entitled "A New Geological Survey" found it impossible to attend the meeting at the last moment and was not present.

The bulk of the papers given were of sufficiently technical character as not to permit of detailed reproduction for popular consumption. Almost invariably, however, they were of specific value to the membership present and were followed with unusual interest.

It may be stated in this connection by the writer, however, that many of these papers, which were in effect discussions of what maps or tracings showed, will be available and of value to the public through regular channels upon this information being actually reduced to the form of papers in the future.

H. Fukuda, a Japanese geologist, whose paper was read to the gathering by Professor Roswell H. Johnson of the University of Pittsburgh, discussed the relative role of strike, streak and faults in determining the long axis of the Osage field. E. Bloesch of Tulsa spoke on sub-surface contouring; Roswell H. Johnson discussed a standard persistence index and co-efficient for oil well decline curves and in another paper dealt with the mechanical error in constructing decline curves on logarithmetic paper.

P. Reudemann gave some praghic methods of appraising oil wells and read a paper by himself and I. I. Gardescu on estimating reserves of natural gas wells by relationship of production to closed pressure.

R. D. Read, by permission of the Oklahoma Geological Survey, gave suggestions with regard to Pennsylvanian age Paleo-geography in the Henryetta district of Oklahoma and A. C. Trowbridge, by permission of the United States Geographical Survey, dealt with Tertiary stratigraphy in the lower Rio Grande region of southwest Texas.

Among papers presented by title were that of Fritz Aurin of the Marland Companies, Ponca City, Okla., and G. C. Clark, dealing with the lower Permian of northern Oklahoma; that of Dr. Sidney Powers on the age of the oil bearing sands of southern Oklahoma; that of J. V. Howell, entitled "Some notes on the lithology of the pre-Cambrian paleozoics of the Wichita Mountain range, Oklahoma;" and that of H. D. Easton on the possibilities of Mississippi as an oil producing state.

Louisiana Conditions Treated

John Y. Snyder of Shreveport, to whose work much of the development of North Louisiana is traceable and to whom is credited the geologic insistence that brought about the discovery of the original R. O. Roy production in the Bellvue shallow sand district of Bossier parish, was unable to be present at the association meetings. He was to have dealt with three unmapped salt domes in the Black Lake area of Red River, Nachitoches and Winn parishes.

J. P. D. Hull of the Louisiana Oil Refining Corp., Shreveport, who read a paper prepared by himself and W. C. Spooner of the Arkansas Natural Gas Co., commented upon Snyder's contribution to the development of North Louisiana and gave an insight into what may be expected of the Bellvue territory when he said that the truncated dome indicated to exist there had oil possibilities not only from the producing Nacatoch sand (at about 400 feet) but also from the Blossom, Woodbine and Trinity, all within less than 3000 feet drilling depth. This area, he said, had been estimated good for 41,500,000 barrels final production.

Mr. Hull discussed generally the 180 square miles comprising the old Caddo development, from which 86 millions of barrels of oil have been produced and which has been estimated to show final recovery of 122 million barrels. He touched briefly upon Haynesville and Homer, La., development and also

upon operations in the El Dorado pool of Union County, Arkansas.

A. F. Crider of the Dixie Oil Co., Shreveport (Standard of Indiana) gave credit to J. J. Victor, a geologist representing the Constantin interests of Tulsa for the discovery of the El Dorado Ark., field and discussed some of the phases of development.

Burbank Paper Important

Oran M. Edwards of Tulsa presented a paper by R. S. McFarland and himself that dealth with structure of the Burbank pool of Osage county, Oklahoma. He pointed out that 64 quarter sections in this field had sold for a total of $14,647,000 at Osage Indian land sales held under jurisdiction of the Interior Department. The average producing cost per barrel of oil was set down as $1.21, which on the present posted market of $2.25 a barrel for crude testing 38 degrees, Be., and above, gave a profit of $1.03 a barrel. Virtually no oil is produced, he said, that will test lower than 38 gravity.

With the foregoing figures in mind, it was pointed out that the per acre recovery necessary to pay out on lease investment would be 1529.5 barrels. The daily yield per acre to the present has been averaged to the present, it was pointed out, at 12½ barrels. If the present rate is maintained, even without additional drilling, it was estimated that the field would pay out both the bonus and operating costs.

Limits of the field, it was pointed out in discussing maps of the producing area, are entirely inferential. Sand thickness indicated on the flanks of the structure were placed at 40 to 60 feet and on the "highs" at 60 to 80 feet with some spots showing even greater thickness.

Relative to production, the thickest part of the sand was described as being in secs. 5, 31 and 36. It was pointed out that production is largest on parts where the sand is not so thick as at other points. Similarly, the tops of the "highs" show no greater production than where wells are drilled on the structural flanks, considered strictly from such a viewpoint. The base of the producing sand was described as being near the top of the Boone limestone of Mississippian age.

No well in the field has encountered anv considerable amount of water. In the northwest part of the field a well was referred to which had come in originally for 1800 barrels and which is now making 800 barrels daily, one barrel of water showing to this total quantity of oil.

Western Kansas Possibilities

Oil possibilities of western Kansas were discussed by C. T. Lupton, who located the Cat Creek field of Montana for the Frantz Oil Corp. The paper, as presented by Mr. Lupton, was by himself, W. Lee and B. R. Van Burgh. The paper dealth with an area that might be described as being the southwest quarter of the state, where the underlying formations are covered with Tertiary veneer. Mr. Lupton took the position that the Permian formation contains sands possible of reservoirs for migratory oil of underlying source. Investigations with which he was familiar were said to have identified 18 structures, eight known to have closures. These closures were described as being from 50 to 150 feet.

Pennsylvania and Mississippian beds were believed by Mr. Lupton to be the sources from which oil would come in that territory, even though it might be found in sands of the Permian to which the oil migrated. Holes to 4000 feet would penetrate 1000 feet of Pennsylvanian, he said, in parts of the territory described.

In the discussion of the paper, Frederick G. Clapp of New York City remarked that the question of oil in western Kansas is part of the question of oil under the Great Central Plains. This was specifically meant to refer to the broad question of what about oil possibilities of the carboniferous in this region.

The question was also brought up in the discussion of the migratory source of oil in the Permian in the southwest. A hint or suggestion was given in the combined discussion of the probabilities of something of great significance in the Pennsylvanian and Mississippian in this part of the Rocky Mountain section, where one speaker observed that the opportunity must be great for Mid-Continent field extensions.

Buried Mountain Range

Professor Charles Schuchert of Yale referred to the buried mountain range, or granite ridge supposed to exist in eastern Colorado, advising extreme caution in making correlations of formations, etc. He referred casually to enormous possibilities of accumulation, but pointed out that a sub-surface condition was being dealt with that is entirely unknown.

Wallace E. Pratt of the Humble Oil & Refining Co., Houston, discussing the Panhandle area of Texas in its possible relation to this territory in western Kansas declared that the Permian formation around Amarillo was not solidly of redbed characteristics. He referred to thick, marine organic sections therein and said these might possibly extend as far south as Mitchell county, where the reader will recall small Permian production has been found.

Max W. Ball entered the discussion to say there is no magic in the word Pennsylvanian, nor black magic in Permian, referring to Wyoming sources of oil now established as being in basal Permian. E. G. Woodruff, formerly of the Texas Co., and more recently with the Producers & Refiners Corp., took a gloomy view of the possibilities of western Kansas.

E. F. Shea, discussing water conditions in the Urchel pool of southeastern Kansas, developed in his paper that notwithstanding the resence of brine the sand porosity had made for a maximum recovery of oil from underground reservoirs.

Mr. Shea made the point that in his belief 100 per cent recovery of oil from the reservoirs had been made in many instances because of water encroachment pushing the oil higher up in the structure from which latter point it was and is being produced. Naturally, some wells were destroyed but the oil they failed to recover because of the water conditions came out or is coming out from others. He said the pool had shown an average acreage recovery of 5000 barrels and was still making about 11,000 barrels daily production.

Dr. Raymond C. Moore gave a paper illustrated by lantern slides on the stratigraphy of a part of Southern Utah, which was of generally technical character. Discussion was joined in by Dorsey Hager, late of Los Angeles, who has worked extensively in the Holbrook, Ariz., territory to the south; also by Dr. Schubert.

Afterward, a paper was given by Max W. Ball which dealt in particular with the Uinta Basin area of northeast Utah. This basin may be roughly described as 100 miles east and west from a point as far east as the Colorado-Utah state boundary and about 75 miles north and south at a point southward from the Utah-Montana boundary. It deals with an area more exactly described as being from the Wasach Mountains east to the Colorado line and from the Uinta Mountains south a distance of 75 miles.

Mr. Ball referred to oil found in the Goodrich horizon, which he said would be commercial if it were not that the test wells drilled and which found this petroleum were 160 miles from a railroad and still further away from a market. He said that the three tests which had been abandoned within recent months in Utah had not disproved the state's possibilities, referring to other beds considered to be of even greater possibilities than the horizons tested and which higher beds were not tested by the earlier "wildcatting" for the reason that they are not present in the areas where drilling was done.

Uinta Basin Deserted

The Uinta Basin is described as an area of Tertiary possibilities of production from the shale territory but it was from sandstones therein rather than shale production that his paper dealt with. As to the effect of the shale upon petroleum origination, however, it may be stated that he described the Uinta Basin as perhaps the richest source of oil forming material in the world. Here the geologic section as understood by the scientific man is 10,000 feet thick and it would be possible to recover from several quarts upward to the ton quantities of shale oil.

Mr. Ball was not dealing, however, with shale oil production. His remarks were with reference to this shale as a source of oil origination. Action of heat and folding was believed present to sufficient extent to create oil in the state where it might accumulate under conditions which petroleum is ordinarily recovered by the oil industry.

Although admittedly only a small part of the oil forming materials found are soluble beyond a stated point, it was his position that there is not now any evidence that these are all there ever was from which soluble matter might have been formed. He answered a question regarding the conversion of petroleum from oil forming materials in the Green River section by referring to seepages as indicating such a change had been undergone.

Mr. Ball made the point that within another year "we ought to know (based on "wildcatting" tests under way or planned) whether the Tertiaries of Utah are as promising as they appear from surface indications.

Other papers on the program included one by R. A. Wilson on the rela-

(Continued on page 26)

Geologists Recognize Value Of Diamond Drill For Oil Explorations

Staff Special

OKLAHOMA CITY, March 9 DEFINITE recognition of the value of diamond drilling in oil industry exploratory work was given at the opening day's meeting, March 9, of the seventh annual gathering of the American Association of Petroleum Geologists. among others this recognition was stressed by Dr. David White of the United States Geological Survey and by Dr. Charles Schuchert who occupies the geological chair at Yale besides being a paleontologist of eminence.

This recognition was given in a discussion that followed a paper given at the afternoon session by Frank A. Edson of the Oklahoma State Geological Survey at Norman, who was the geologist active in connection with the drilling of diamond cored wells in the Panuco field of Mexico by the Panuco-Boston Oil Co., a subsidiary of the Atlantic Refining Co., regarding which operations a detailed article appeared in the March 8 issue of **National Petroleum News.**

After Mr. Edson had finished, Robert Davis Longyear, geologist of Minneapolis, Minn., and representing the E. J. Longyear Co., diamond drill contractors and manufacturers, discussed the results obtained in oil industry exploratory work by this method. Mr. Longyear, a member of the association, was on the program in his individual capacity.

In passing it may be said by the writer, who investigated diamond drill test operations on a trip to Mexico from which he returned less than two weeks ago, found that in the Panuco-Boston operations at Panuco the Sullivan Machinery Co., Chicago, equipment was used. In the Aguada tests of the Cortez Oil Corp., another Atlantic Refining Co. subsidiary, Longyear equipment is being used.

Among the advantages of the diamond drill for "wildcatting," as pointed out by Mr. Edson, not the least is that which pertains to the practical data it gives for purposes of determining the size of a "shot" to be placed in a well when it is considered advisable to utilize nitroglycerin. Wells are not shot in Mexico, but Mr. Edson pointed out the value of this drilling method in territories where nitro-glycerin is used in determining whether a heavy or light charge is necessary.

Mr. Edson also referred to the fact that the diamond drill had been made available for softer formations than had been previously believed because of finding in the first Panuco-Boston test on the Ugarte property at Panuco that mud-laden fluid could be used in the drilling operation up to 20 per cent. Mr. Edson's remarks appear in full elsewhere.

Mr. Longyear pointed out three contingencies under which the diamond drill is adaptable to oil field exploratory work:

(1)—In conjunction with standard tools;

(2)—For the complete well drilling operations; and

(3)—For finishing a hole from the point where it had been found necessary to suspend operations under the old method because of the casing having been reduced to the last size practicable to use with standard tools.

He pointed out essentially the same thing that appeared in the recent **National Petroleum News** article in which it was stressed that transportation of equipment for the diamond drill required the moving of only some 60 tons of material and equipment as against 200 to 350 tons with the cable or rotary tool methods. He also pointed out that diamond drilling cuts down the amount of casing required because this method does not necessitate casing the hole all the way down except as it may be necessary to case off water, before making a test of the sand itself. He stated that 25c a foot would be a high carbon loss (that is to say cost for diamonds) in comparison with an unnamed rotary bit advertisement to which reference was made of its claims to economical drilling, which he said figured but several dollars a foot.

Was Needed at Burbank

Reference was made to the value that diamond drill holes would have had in the Burbank pool of Osage county, Okla., which earlier in the day had figured in the discussions of the meetings and where it had not been possible for geologists to make as satisfactory correlations as they had desired because of persistence of the drilling crew in some instances reporting the formation as sand and in other cases as sandy shale above the oil pay level. With the diamond drill, even had there been only one hole in each part of the field, the correlation of formations would have been made easy because then the geologist would have had for his personal examination the actual core of the formation and would not have had to take the drillers word for anything.

Referring to a test well in the northwestern part of the United States which developed gas, Mr. Longyear said that use of the diamond drill in that instance showed the gas to have come from fractures in the formation encountered and not from porous formations as might have been suspected.

Boon For Paleo-Geographic Work

Professor Charles Schuchert of Yale, referred briefly to the abundance of fossils possible to obtain for paleontological study from diamond drilling. He was specifically interested from the scientific viewpoint. He hoped, he said, that this equipment would come more and more into use. Mention also was made that the problems of getting information about sand porosity would be solved and that, therefore, it would be possible to gain a more intelligent idea of conditions governing.

Fritz Rurin of the geological department of the Marland Companies, Ponca City, arose to say that not only with regard to porosity but saturation of pay sand as well it would be possible to develop information that would make possible more accurate estimates of petrcleum reserves and the calculation of the amount of recoverable oil to be found in a given area or pool that had been more or less developed.

B. B. Whitehead of the Atlantic Refining Co. interests referred to the object of the parent company in furthering the use of the diamond drill in Mexico. The original "cored" well of the Panuco-Boston on the Ugarte property was the first producing oil well ever to have been drilled with this equipment. He said the object was to determine the texture of the Tamasopa limestone. This is the formation in which "cavernous" reservoirs are considered to exist in the Southern district. Answering a question regarding whether the Panuco completed test penetrated a "cavernous" reservoir or not he said that in this well the core taken at the pay level indicated the oil came from a fracture zone horizon.

Mr. Whitehead made the point that oil geology still is more or less on trial, so that the need exists to do whatever is possible toward making correlations as exact as may be. Mr. Edson, taking part in the discussion arose to make the remark that in the lead and zinc territory of Missouri there is a type of mining equipment referred to as the "plug" drill. These drills, he said, make from 80 to 100 feet of hole in an eight hour shift and the formation to which he had specific reference was described as being much harder than the Mississippi lime of oill country significance. On these drills, he said, it was not necessary to pull out of the hole in taking core samples.

Value To U. S. Geological Survey

Dr. David White referred to the importance that the diamond drill could play in connection with the geological survey's checking up on potash deposits in west Texas. He referred to extravagant claims of stock promotion companies in this regard and referred to the fact that diamond drill cuttings in "wildcat" oil tests in that territory could throw light upon the potash question were this method used in petroleum operations. He was interested from this slant of economic geology, he said, in addition to the interest he took in it from the oil industry viewpoint.

John R. Suman of the Rio Bravo Oil Co., subsidiary in Texas of the Southern Pacific railroad, in answering a question about using the diamond drill for production purposes in the "big well" country of Mexico, said that he had been informed that the hydrostatic head is so much greater than the pressure of mud-laden fluid that probably there would be need for protective measures in drilling in a well other than the normal protection afforded by the equipment. Oil savers are ordinarily used in completing a well in Mexico, these keeping standard tool equipment from being thrown into the derrick and causing fires by sparking when the 50,000 to 75,000 barrel wells of the Southern district come in.

Mr. Suman referred to the taking of cores in Gulf Coastal domestic fields with rotary equipment and John L. Henning formerly head of the Union Sulphur Co's operations at Sulphur, La., referred to the first wells there being drilled with diamond equipment as early as 1888.

Geologists Elect Wrather

(Continued from page 24)

tion of geologic features of South Dakota to petroleum possibilities; by E. M. Spieker on the petroleum geology of western Peace River district, British Columbia; G. C. Martin, on natural coal tar mistaken for oil residue; A. R. Castile on "A Recent Fissure near Terrell, Texas"; Frederick G. Clapp on the oil possibilities of China; J. H. Gardner of Tulsa, on epiclinal distortion; J. W. Bostick on the importance of microscopic work on well cuttings; V. V. Waite on microscopic study as an aid to shooting dry holes into production; L. G. Huntley, geological features illustrated by models; B. K. Stroud, the necessity for engineering in developing oil and gas properties; M. J. Munn, restatement of the hydraulic theory of oil and gas accumulation; W. R. Jillson, depletion of Kentucky crude oils; V. E. Monett, typographical criteria for oil structures; L. Franklin, a preliminary study on the recovery of oil by sinking shafts and driving galleries; W. C. Thompson, the Midway Limestone of northeast Texas; S. Weidman, source of the red color of Permo-Carboniferous redbeds; J. L. Ferguson, the oil boom at Spokane, Wash.; J. D. Haseman, the humic acid origin of asphalt; D. W. Williams, correlation of producing sands in southeastern Kansas and northeastern Oklahoma; J. L. Rich, a probable buried mountain range of early Permian age east of the present Rocky Mountains in New Mexico and Colorado; W. T. Thom, Jr., the relation of deep-seated faults to surface structural features of central Montana; L. A. English, A. Meer and R. Denison, on the Robberson, Okla., oil field, which was presented by C. W. Stannon of the Oklahoma survey.

HOUSTON, March 11.—R. L. Welch, secretary of the American Petroleum Institute, stopped in Houston on his way from the convention of the Western Petroleum Refiners Association at New Orleans, to California to see Thomas A. O'Donnell, president of the Institute.

Operators Wage Fight On Proposed Gas Law

LEXINGTON, KY., March 11.—Kentucky oil operators have just experienced a very busy week in the General Assembly. There have been a number of bills introduced affecting the oil and gas industry of the state, but the hardest fight is against Senate Bill 206, which is entitled, "An Act for the protection and conservation of the supply of natural gas in the State of Kentucky, and prohibiting the waste and wasteful use of such gas and providing penalties for the violation of such Act."

This bill is sponsored by the Louisville Gas & Electric Co., which operates a line from the Kentucky gas field to the city of Louisville and there sells gas to the residents of that city. The bill prohibits the operators from selling their gas except to a utility company from wells within a radius of 10 miles of the pipe line.

The operators believe that this creates a monopoly and destroys the open market for their product, as the main and tributary lines of the gas company now traverse 75 miles square of the rich productive gas fields of Kentucky. The original argument of the sponsors of the bill was that they wanted to eliminate and prevent the use of natural gas in the manufacture of carbon black, but a clause has been added to the bill which reads as follows: "There are excepted from the operation of this Act such manufacturing plants as are now engaged in the manufacture of carbon black from natural gas to the extent of their present capacity and while in their present location."

This bill has passed the senate already and is expected to be hotly contested when it comes up in the house.

House Bill 188, which was introduced early in the session of the legislature was defeated on the floor of the house. This required "that all operators and producers of petroleum and natural gas in this state shall file with the State Geologist a sworn statement showing the nature, kind, location and probable depth of any well proposed to be drilled, before beginning work thereon, and within ten days after said well is completed or abandoned, shall file a sworn statement with said State Geologist, showing the location, depth, production and ownership of said well, together with an accurate log or record of all rock strata penetrated by the bit in said operation."

The sponsors of this bill were asked to withdraw it but refused. The operators were opposed to reporting in advance any proposed location and this bill was, in a way, ridiculous since it is sometimes impossible to get this accurate information and would place the producer in a very bad position, having to swear to the report and perhaps be guilty of false swearing and subject to a heavy fine.

Move To Establish New Lousiana Survey

Staff Special

OKLAHOMA CITY, March 11.—A movement to establish a new state geological survey in Louisiana was made known at the meeting of American Association of Petroleum Geologists. Ben K. Stroud, J. Y. Snyder, of Shreveport, and Clyde M. Bennett, vice president of the Louisiana Oil Refining Corp., comprise a committee that is working on a measure establishing survey to be presented to the present legislature. Governor Parker is quoted as favoring its establishment.

POPLAR GROVE, ILL., March 9. Thomas Bartels, an agent for the Standard Oil Co. at Harvard and formerly at Woodstock, Ill., was drowned Feb. 26 when he and a companion, Ernest Roach, attempted to cross Delevan lake in an automobile. The auto broke through. Bartels left a widow and four children.

HOUSTON, March 14.—The consolidation of the interests of Col. A. E. Humphreys and associates into a $15,000,000 corporation to be known as the Humphreys Oil Co. was concluded at the meeting at Mexia March 8.

S. E. J. Cox Arrested On Charge Of Fraud

HOUSTON, March 14.—The arrest of S. E. J. Cox in New York yesterday followed the issuance of a warrant issued against him March 10 by United States Commissioner McMahon in Houston, charging him with using the mails to defraud. Companies that Cox promoted have been a storm center for a year. Recently he headed the Cox Realization Co., which is described as a $20,000,000 promotion scheme.

His operations were investigated by the Associated Advertising Clubs of the World and later its report quoted government reports as showing Cox's claims concerning potash beds in western Texas were greatly exaggerated. Sales of stock totaling more than $1,000,000 are alleged to have been made in operations which were extensive.

New York Proposes Tax On Gasoline For Bonus

ALBANY, N. Y., March 9.—Assemblyman J. Male has introduced a soldiers' bonus bill in the general assembly appropriating $30,000,000 to world war veterans. It is proposed to raise this sum by taxing gasoline 3 cents a gallon; carbonated soft drinks 2 cents a bottle; parcel post 2 cents a pound; outdoor advertising 10 per cent on the gross, and matches 1 cent a box. The measure has been referred to the committee on ways and means.

* * *

FRANKFORT, Ky., March 9.—The Kentucky house has passed the bill providing for a road tax on 1 cent a gallon and other fuels used in internal combustion engines, except kerosene, fuel oil or crude oil.

* * *

TRENTON, N. J., March 9.—The bill in the house of the New Jersey legislature restricting gasoline service stations and pumps on state highways, has been defeated.

Masterson Would Annul Gas Leases

FORT WORTH, March 9.—R. B. Masterson, millionaire ranch owner of the Texas Panhandle, has filed suit at Amarillo seeking to annul leases on 22,000 acres of his ranch in the heart of the Amarillo gas field. Defendants are the Amarillo Oil Co., original lessee, Jones Bros., and other sub-lessees. Masterson charges breach of contract through failure to develop properties and because of non-marketing of gas from the No. 5 Masterson well which has been rated good for as high as 107 million cubic feet of gas.

EVANSTON, ILL., March 13.—F. B. Sprogue, formerly with the Standard Oil Co., is now special representative of the Sinclair Refining Co. in the Chicago territory.

OIL FIELD EQUIPMENT—NOTES OF TRADE

Casing Manufacturers Express Ideas On Thread Controversy

TULSA, March 10

By J. R. Stockton
PRODUCERS & REFINERS CORPORATION

J. R. Stockton's discussions of the casing-thread situation, written rather as a plea for standardization than as a boost for any particular type of goods, have been published in the Mid-Continent Purchaser, official organ of the Purchasing Agents Association of Oklahoma. Excerpts from his first article were printed on page 29 of the March 8 issue of National Petroleum News. The accompanying story was published substantially as it appears here in the Purchaser of March 9. The accompanying is largely a series of opinions submitted by manufacturers of tubular goods.—Editor.

PREVIOUS to its publication copies of the article on casing threads, appearing last week were submitted to various pipe mills and supply companies for comment. To date replies from four mills and three supply companies have been received.

These letters naturally and properly set forth rather strongly the merits of the particular casing made or handled by the company writing the letter. Effort has been made to edit them in such a way as to eliminate all advertising matter, but not cut out anything of value referring to casing threads.

One company writes: "We are entirely in accord with the idea of standardization of threads for casing in the Mid-Continent and Texas oil fields, and believe that the practice of the California operators in standardization on 10 threads with ¾-inch taper per foot and with a determined length of thread for different groups of sizes might be followed to the advantage of the operators and supply dealers in the Mid-Continent and Texas fields, as well as, to the advantage of the manufacturers.

"We do not care to advance any technical arguments for or against the 10-thread standard, as we feel that the actual service experience gained by the California operators is of more value than any other argument could possibly be and as it is our understanding that the 10-thread standard has been found to be uniformly satisfactory in that field we are favorable to the adoption of the same standard for the Mid-Continent and Texas field."

Case is Stated

But they give us a brief gotten up some years ago by their Chief Engineer, which states the case as follows:

1. A joint having 10 threads per inch leaves two thousandths of an inch more thickness of metal at the root of the thread than one having eight threads per inch. This naturally leaves the walls of the pipe just that much thicker and stronger to resist distortion by crushing.

2. A joint having ¾″ taper per foot leaves the thickness of metal in walls at end of pipe greater in an amount equal to the legnth of perfect thread on pipe by .015625″. This naturally leaves the joint of the pipe stronger to resist distortion by crushing.

3. As all threads are cut with the sides of each thread symmetrical to a line running at right angles to the center line of the pipe; a straight thread is the strongest in direct shear.

4. On tapered threads the amount of metal is less than on straight and the greater the taper the less the metal actually in shear.

5. On pipe having 10 threads per inch, the amount of metal in direct shear with ¾″ taper is 1 2-3 per cent greater than one with ¾″ taper (length of thread in inches being the same in each case).

6. The comparison between 10 threads ¾″ taper and eight threads ¾″ taper therefore shows that the 10 threads with ¾″ taper is 1.6 per cent stronger than the eight threads with ¾″ taper, (where the threaded parts are the same length in inches).

7. The 10 threads will make a tighter joint and dill hold tighter than the eight threads owing to the angle of lead being less.

8. The smaller taper will make a tighter joint owing to the wedge action not being so abrupt.

What Opposition Says

As opposed to this another mill says: "Because of the different weights of casing now in common use in the Texas and Mid-Continent fields depending upon the depth of the wells, it is of course difficult, in our opinion, to arrive at a satisfactory conclusion as applying to all cases. However, if any one standard of threads is to be adopted for California casing of the various weights now in common use, we would unhesitatingly be in favor of adopting 10 threads as a standard believing that this thread would be the safest and best thread in all general cases. We at the same time realize that if the heavier weights only were considered, such as 8¼″ 32-pound, 10″ 45-pound, or 15½″ 70-pound, the eight thread California type of joint would in all probability produce a better joint."

Another mill states it this way: "In the early days the highest casing used in the California fields carried a correspondingly fine thread, but as the drilling became deeper, circumstances demanded heavier material and, of course, a coarser and longer thread. We believe that what is true of California is true of other fields and that it is only because deep wells were drilled earlier

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Rain May Revive Supply House Business In Oklahoma-Kansas

Staff Special

TULSA March 11.—Rainfall on Thursday and Friday of this week totaling two inches in Tulsa, according to the weather bureau record, was general in this part of the state and left pools of water in hitherto dry basins of oil fields. Almost without exception, every field of operation in the Mid-Continent had been slowed up on account of drouth, and the rain has made operation possible. Irrespective of the supply of crude on hand and growing sentiment in favor of controlling production, the rain will surely stimulate drilling, especially in the flush pools. The oil field supply men of this region are expecting business to pick up considerably next week.

Although roads are too muddy to support heavy loads involved in taking field equipment to locations yet, and Saturday too soon after the rain to determine its effect with any degree of accuracy, it is well known that the smaller operators in the Osage, around Bristow, at Henryetta and in Kansas have been shut down for lack of water. A few have been fortunate enough to buy water from the larger companies whose operations were extensive enough to make it economical for them to pipe it six or eight miles. But as early as Saturday morning inquiries for equipment had begun to come into local supply houses. One contractor quoted figures on nine rigs on Friday.

Except for one or two companies which have been consistent buyers of crude storage for the past few months, there is little business in steel tanks for field construction. However, a few refiners have come into the market for tankage recently, as well as for other items of equipment. Comparatively few refiners whose plants are shut down have manifested intentions to start running by talking to manufacturers about equipment. The most promising business appears to be coming from operating refineries desiring to improve their plants and increase their efficiency. As expressed by one man of the supply trades, "Refiners seem to be thinking about getting more out of their present capacity rather than of running more oil".

There has been no apparent change in the price of any commodity in the supply lines during the past week, and except for hopes growing out of the rain there has been little to break the monotony of only fair business at the sales offices.

(Continued from page 27)

in California than in the Mid-Continent district that more experience was had in California and that the casing used was sometimes called California casing. The only coarse thread in use when the demand for a coarse thread arose was eight thread, and at first oil country casing was threaded with eight threads. It was found this thread on account of its depth would not permit of a very long thread with the weights of casing then in use so a compromise thread, or 10 threads per inch, was adopted and this has since proven to be an ideal thread.

"Ten threads per inch combines the leak proof qualities of the finer threads (11½ and 14) with the strength of the more practical eight thread. Eleven and a half threads are easily damaged when material is carelessly handled, also have a very shallow depth, which will let the pipe drop out of the coupling when the coupling expands only a little under strain. Eight threads per inch naturally have a much deeper thread, and while a greater expansion of the coupling is necessary than on the 11½ thread before pipe will drop out, still this extra depth of thread does not permit of a long thread on the pipe without getting the metal too thin under the roots of the threads at the end of the pipe. It is, therefore, fair to assume that the compromise 10 thread would have the average of the good qualities of both and minimize the bad features of both.

"It is absolutely wrong to assume that the breaking of pipe or casing at the shoulder of the pipe or where the contact of pipe and coupling thread ceases is due to any vertical pull or strain. Any steel furnished in casing even at the lowest ultimate tensile strength permissible would stand a vertical pull or weight equivalent to twice any depth that casing had ever been set at; if casing does break at this point we believe it breaks due to side thrust. This side thrust may be due either to crooked hole or perhaps an eccentric socket.

"Some of out customers specify long coupling casing fitted with eight threads. We consider this a mistake and believe that when they do this they sacrifice the benefits which we have obtained for them due to our patented process and the 10 threads.

"One superintendent with whom we talked recently assured us that if he could be on the ground at the times when casing was run he would use only 10 thread. He claims careless casing crews sometimes in failing to stab the casing straight caused crossed threads."

Industrial Exhibit Is To Have More Display

Staff Special

TULSA, March 11.—The permanent industrial exhibit of Tulsa made goods fostered by the Purchasing Agents Association on Oklahoma and founded in the Lynch building here, has proven its success so thoroughly that the association has arranged to double the space and let in the rest of the applicants for display room. At present the exhibit room is a remodeled store room 20 x 140 feet, divided into 56 booths, all in use. The adjoining store room has been rented and will be accessible to the association in about six weeks. Its acquisition will give the association a total floor space of 5,600 square feet.

The majority of the purchasing agents represent oil companies, or allied industries. Most of the exhibits are of oil field equipment—or at least for use in the oil industry. The two halls will be thrown together with an arch. Three fourths of the space in the newly acquired room has been contracted for by manufacturers. O. V. Borden, secretary of the association is manager of the exhibit, having his offices in the front of the exhibition building. He says the popularity of the place keeps him so busy entertaining guests that he has little time for routine office duties.

Supply Trade Personals

TOLEDO, O., March 13.—Paul N. Boggs has been chosen vice president and general manager of the National Supply Co., of Toledo. Mr. Boggs has been in the oil-well supply business for 20 years, having been affiliated with the Lucey Manufacturing Corp., and the Union Tool Co., being a vice president in each of these corporations.

The National is constructing an office building and warehouse adjacent to its Toledo plant. It is 60 by 215 feet and will be five stories high. The warehouse will be in the basement and first floor and will connect with an existing warehouse making the floors 375 by 100 feet. The upper four floors will be used by the engineering and office forces.

* * *

WATERLOO, IA., March 11.—The Armstrong Manufacturing Co. of Waterloo has moved its Kentucky branch store and service station from Scottsville to 112 Main street, Bowling Green. The store is managed by F. J. Schermer who reports that conditions in the Kentucky fields are improving somewhat and that idle equipment probably will be back at work within 90 days.

* * *

TULSA, March 9.—C. T. Mapes and Walter Sleeman, both with the Oil Well Supply Co., Pittsburgh, on Friday started east after a week in the southwest. They visited the Gulf coast, Texas and Mid-Continent fields. Mr. Mapes is superintendent of the Twenty-first Street works in Pittsburgh and Mr. Sleeman is a mechanical engineer.

* * *

TULSA, March 10.—C. F. DeBrunner, general sales manager of the United Iron Works, Kansas City was in Tulsa Friday. Mr. DeBrunner says there is some business in the Kansas City district with the refining branch of the oil industry.

* * *

TULSA, March 9.—Jack Walton, Fort Worth manager of the sales department of the National Supply Co., spent the last week end in Tulsa attending a conference of the National Supply men of this section. Mr. Walton formerly was purchasing agent for the Transcontinental Oil Co. here and went into the supply business about six months ago.

* * *

TULSA, March 9.—Roy S. McKeever recently was made general sales manager of the Oklahoma Iron Works. Mr. McKeever was with the company before, having left it a little more than a year ago to enter the employ of the Oil Well Supply Co. He returned to the Oklahoma Iron Works as general sales manager.

* * *

WICHITA FALLS, Tex., March 11.—J. W. Kelley, assistant manager of the northern Texas and southern Oklahoma district of the Continental Supply Co. of St. Louis, died March 8 of pneumonia. He had been with Continental for several years. His body was taken to Anderson, Ind., for burial.

* * *

HOUSTON, March 11.—John M. Crawford, president of the Parkersburg Rig & Reel Co., is in Houston this week on a quarterly inspection of the company's offices and plants. He is optimistic over business generally and oil particularly.

* * *

DENVER, COL., March 10.—Orders for the new line of the Western Independent Pipe Line Co., from the Salt Creek district to Casper, Wyo., have been placed through the Denver office of the Continental Supply Co. of St. Louis.

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TULSA, March 11.—O. T. Dawson, district manager of the National Supply Co., spent the greater part of the past week on a business trip through the southern part of Oklahoma.

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NEW YORK, March 11.—F. L. Convers, of the New York office of the Continental Supply Co. of St. Louis, is now in London looking after the company's interests in England.

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TULSA, March 10.—Cloud M. Murry of the Murry Tool & Supply Co., 1406 South Owasso Avenue, Tulsa, welcomed a son into his home March 5.

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ST. LOUIS, March 13.—The Continental Supply Co., has opened a new store at Henryetta, Okla., F. L. Lawson, who formerly was at Quay, is in charge.

Texas Co. Nets 9 Million After All Allowances

HOUSTON, March 14.—Net earnings of The Texas Co. after reserves for depreciation and allowing $10,636,129 for adjustment of inventories to meet lower costs or markets, amounting to $9,286,129 for 1921, according to the report presented at the annual meeting here yesterday. Dividends paid during the year amounted to $18,057,000 or approximately 11 per cent. Adjustments in the amortization, depreciation, tax and miscellaneous reserves allowed the company to add $8,977,259 to its surrplus, which after payment of dividends was $206,388 more on Dec. 31, 1921, than at the end of 1920.

Oil Companies, Executives Turn Out For Refiners Meeting

By J. C. Chatfield
STAFF REPRESENTATIVE

NEW ORLEANS, March 11. GEORGE N. MOORE of Chicago, president of the Shaffer Oil and Refining Co., was elected president of the Western Petroleum Refiners Association at the closing meeting on March 9 of its first annual convention, held in New Orleans. Mr. Moore has been with the Shaffer company at Chicago since it took over the Consumer's Refining Co. about two years ago. He had been general manager of that corporation since leaving the Standard Asphalt & Rubber Co., of Independence, Kans., in 1912. Early experience of Mr. Moore in the oil industry was gained in the Ohio and Pennsylvania fields.

J. A. Germany of Dallas, vice president of the Panhandle Refining Co., was re-elected first vice president of the association for a second term. W. L. Kistler of Tulsa, vice president of the Producers & Refiners Corp., was also reelected as second vice president.

Selection of the secretary for the coming year was left to the board of directors. The board held a brief meeting at the close of the convention and agreed to meet again at Kansas City on March 24.

By a change in the by-laws of the association adopted at the business meeting a board of directors will govern the policies of the organization between conventions. The board will consist of 25 members. In addition an executive committee of seven, to be selected by the board, will act on important matters when the entire board cannot be gathered together.

Directors Elected

The committee on nominations presented the following list of names for members of the board of directors which was accepted without change: E. W. Goebel of the Kansas City Refining Co., Kansas City; C. L. Henderson of the Sterling Oil & Refining Co., Wichita, Kas.; W. R. Spann of the Montrose Refining Co., Ft. Worth; Elliot Jones of Elliot Jones & Co., San Antonio, Tex.; G. C. Jensen of the Sunshine State Oil & Refining Co., Wichita Falls, Tex.; Pat Malloy of the Constantin Refining Co., Tulsa; P. M. Miskel of the Empire Refineries, Inc., Tulsa; L. L. Marcel of the White Eagle Oil & Refining Co., Kansas City; C. L. Mayhall of the Imperial Refining Co., Ft. Worth; T. W. Melvin of the Chestnut & Smith Corp., Tulsa; J. H. Miller of the Miller Petroleum Co., Kansas City; E. R. Perry of Cosden & Co., Tulsa; F. A. Pielsticker of the Midland Refining Co., Eldorado, Kas.; O. D. Robinson of the Transcontinental Oil Co., Pittsburgh; E. E. Schock of the Indiahoma Refining Co., St. Louis; George D. Locke of the Barnsdall Refining Co., Chicago; Sam C. Collins of the Marland Refining Co., Ponca City, Okla.; G. G. Woodruff of the Roxana Petroleum Co., St. Louis; W. E. McEwen of the National Refining Co., Cleveland; J. B. Earhart of the White Star Refining Co., Detroit; and W. D. Richardson, retiring president of the association, of the Meridian Petroleum Corp., Kansas City.

The seven members of the association to form the executive committee are to be named at the first meeting of the board of directors.

Approval of the Douglas schedule for marginal contracts between refiners and marketers was given by vote of the association. The body did not bind itself or any of its members to follow the schedule but merely indicated its approval of the idea involved. Although it was pointed out that following the schedule would still be basing the prices for refined products on the tank wagon market, nevertheless, the organization felt it better to refrain from even giving rise to any suspicion of price fixing by agreement.

George N. Moore

A resolution presented by A. Sheldon Clark, vice president of the Sinclair Refining Co., approving the report of the International Deep Waterways Commission and pledging the support of the association to a program of development of water transportation facilities within the United States was adopted by the convention without a dissenting voice. The resolution follows:

The Resolution

"Whereas the developments and improvement of the deep waterways of the central west and Great Lakes region is of the greatest importance and necessity to the economic development of the country, and will tend to materially increase transportation and at a decreased cost to the shipper:

"Therefore be it resolved: That the Western Petroleum Refiners Association, in meeting assembled at New Orleans on March 9, 1922, does hereby go on record in hearty support of such legislation as is now before the respective state legislatures of the central west favorable to this deep waterway developments, and, be it further resolved:

"That the Western Petroleum Refiners Association be placed on record as giving its approval to the report of the International Deep Waterways Commission now before congress at Washington, and be it further resolved:

"That each member of the Western Petroleum Refiners Association get in touch with his representative at Washington and urge their support and assistance in furthering such legislation which will give to the central west and the Great Lakes region immediate construction of the proposed deep waterway.

"Furthermore: be it resolved:

"That the president of this association appoint committees and take such other steps as may be deemed necessary to keep up this campaign until said waterways are completed."

Traffic Department Ended

Discontinuance of the traffic department of the association and the cancellation of its agreement with Clifford Thorne, general counsel, for the coming year was unanimously agreed upon at the convention. Declaring that the rapid growth in membership of the association which has resulted in diversification of the membership has made it impossible for the association to approach rate and traffic matters with a solid front, E. R. Perry, of Tulsa, vice-president of Cosden & Co. recommended that the step be taken. In the future, he suggested, the refiners in given groups should care for their own traffic problems as they arise, opposing other groups in the association, if necessary.

Economy on the part of the association was urged as another reason for the closing of the Chicago office. Although all members of the association have retrenched in business the association, as such, has not, it was stated. The traffic department of the organization cost in the neighborhood of $40,000 last year.

Traffic matters concerning the entire organization will be handled through the office of the secretary in the future.

Co-operation of producers with refiners in the storing of fuel oil during the summer manufacturing months until the peak of fuel oil consumption in the winter was suggested as a means of alleviating the present fuel oil situation by W. H. Gray, president of the National Association of Independent Oil Producers in his paper read before the opening session.

Thinks Producers Would Act

Asked whether he believed the producers would join in such an arrangement and lend their financial support to the refiners Mr. Gray stated his belief that they would. He indicated that the producers would be willing to sign contracts covering the storage and advance funds permitting the fuel oil to stack up during the heavy gasoline months of the summer.

In the general discussion of the paper of Mr. Gray following its presentation at the afternoon session on Wednesday considerable attention was given to the prediction that price fixing groups might revise their system to base the market on the gravity of crude offered. George N. Moore, stated that as soon as a majority of the producers are producing and offer-

ing light oil for sale the market structure will be changed. As long as the majority are producing heavy oils this will not take place, according to his viewpoint.

The suggestion that the market for crude oil may be based on the gasoline content of the material as determined by a distillation test was rejected by many joining in the discussion. It was their opinion that such an involved procedure would never enter the crude price considerations.

No immediate hope of a tariff on Mexican oil to protect the fuel market was held out by Mr. Gray. He predicted, however, that the Automobile Association of America will take a different view of the proposal at the close of the present season. They will find that the weakened fuel market caused by the influx from Mexican fields will force the gasoline price up to carry the load of the surplus fuel necessarily produced, according to his opinion.

Educational Campaign Proposed

A campaign of education featuring uses for fuel oil was proposed as a means of widening the market for the product in a short talk by W. D. Richardson, president of the association, who presided at the first session. He stated that in the past the refiners have largely considered fuel oil as a waste product and have given little consideration to stimulating a demand for it. With a campaign of education and the development of better methods for its use or a wider field of use he showed that the stocks would not back up as at present.

R. L. Welch, secretary and general counsel of the American Petroleum Institute, announced to the convention that the statistical section of the institute is preparing to give enlarged and quicker service within the near future. Called to make a short talk to the refiners Mr. Welch said that within the next month the institute will be able to publish figures showing the pipe-line stocks on hand and the increase or decrease within ten days after the close of the period to be reflected.

As its next undertaking the institute will seek to compile complete figures on refined stocks in the country together with the imports. In that connection he asked the refiners to co-operate with him in furnishing complete information when requested. Doing that, he said, would enable the refiners all to have a comprehensive and exact view of the current situation at all times.

Closing his talk Mr. Welch gave it as his opinion that the key to the future prosperity of the Mid-Continent refiners lies in obtaining a substantial reduction on fuel oil from the field to all parts of the country. He urged active work of the association on that matter.

Natural Gasoline

A. V. Bourque, secretary of the Association of Natural Gasoline Manufacturers, read a paper dealing with the proper methods of handling natural gasoline. The paper gave detailed instructions for unloading cars, storage and blending. It was prepared for presentation by D. E. Buchanan, sales manager for the Chestnut & Smith Corp., and other members of the association.

Much information of value to refiners in judging the value, for his purposes, of crude from various fields in the southwest was given in the paper prepared by H. H. Hill, E. W. Dean and N. A. C. Smith of the Bartlesville, Okla., experiment station of the Bureau of Mines which was read by M. P. Youker of the same station. The paper reflected the results of a number of exhaustive tests of the crudes from Oklahoma, Texas, Arkansas, Louisiana and Kansas.: Inasmuch as it was a statement of results of experiments it did not permit of argument and discussion on the part of the delegates.

In the following pages will be found the report of the first convention of the Western Petroleum Refiners Association. Papers read at the convention and not carried in this issue will be published next week.—Editor.

Numerous matters in which the western refiners' association has taken a hand through the office of Fayette B. Dow, its Washington counsel, because these matters vitally affect relations between the refiners of the country and the federal government, were covered in the report submittd by Mr. Dow, who was himself not able to attend the New Orleans meeting. In general he asked the support of the individual refiners in the work the Washington bureau is doing through their appeal to their congressmen. Mr. Dow's report went into the present status of taxation matters and transportation matters fully.

Traffic Committee

The traffic committee of the association presented its report covering traffic cases closed during the year and matter still pending, pointing out that, unless the western refiners association is successful in securing a general downward revision of interstate rates on petroleum products from the Mid-Continent territory, the future of the Independent refiner there is very much in doubt. Members of the committee are: J. A. Germany, Panhandle Refining Co., chairman; P. M. Miskell, Empire Refineries, Inc.; O. D. Robinson, Transcontinental Oil Co.; E. W. Goebel, Kansas City Refining Co.; and E. R. Perry, Cosden & Co.

W. B. Burruss of Kansas City, entertained the refiners at the morning session of the second day's meeting with his address on "Shakespeare as a Salesman." Although largely prepared for entertainment the address contained a practical lecture on salesmanship.

Suggestions covering the practicability of building and operating portable refineries were detailed in the paper presented by John L. Gray, president of the Barnsdall Refining Co. He told also of a new refining process which his organization has been interested in perfecting, a full account of which may be found on succeeding pages of this issue.

Discussion of Mr. Gray's paper brought a statement from J. A. Germany, presiding vice president for the session, that one man is seeking to perfect a small refinery set on a flat car which can be set up and operated on any siding.

Schock's Humor Gets Laugh

Frequent laughter and applause punctuated the address by E. E. Schock, president of the Indiahoma Refining Co., on The Problems of 1921 and the Outlook for 1922, in which he took a humorous viewpoint in nearly every phase. He dismissed 1921 with a simple "Thank God" that's history but spent more time on transportation and other problems of the future. A startling statement made by him was that the railroads spent $5,000,000 on propaganda to obtain a raise in rates, that they asked for 35 per cent as an increase because they thought any figure they might name would be reduced and that they really were sorry that they got such a large increase that it stopped traffic.

That the Independent refiners should devote more attention to synthetic gasoline production and seek to increase gasoline gallonage was the plea of Dr. Roy Cross of the Kansas City Testing Laboratories in his paper on progress in that branch of refining which gave some outline of the system he has evolved.

Approval by the marketers of the marginal contract basis of doing business with refiners and particularly of the Douglas schedule was voiced by E. E. Grant, secretary of the National Petroleum Marketers' Association, who read the last paper presented to the convention before its adjournment.

At the banquet attended by the refiners and their wives on the last night of the convention E. R. Perry was toastmaster. He introduced Harold W. Newman, president of the New Orleans Association of Commerce, who told of the $20,000,000 deep ship canal being built to supplement the port facilities of the city so that it can make room for industrial development.

Dan Norman, vice president of the Continental and Commercial National bank of Chicago, in his toast presented an optimistic view of the financial situation. He was followed by Samuel O. Dunn, editor of *Railway Age*, who sought to enlist the refiners in supporting the railroads in earning a sufficient revenue to attract money for improvements and extensions.

Chartering the steamship Capitol, the Union Petroleum Co. entertained delegates to the convention with a boat trip around the harbor on the morning following adjournment. The steamer tied up to a Sinclair tanker at the Union dock at Westwego shortly before noon.

After inspecting the tanker from stem to stern and watching the process of loading a cargo of steam refined lubricating oils from the Mid-Continent field, delegates with their wives and daughters were conducted through the plant by H. F. D. Ringler, manager. L. V. Stanford of Philadelphia, vice president, and W. H. Reed, traffic manager, aided in making the visitors feel at home.

Before boarding the boat for the return trip the company provided luncheon for the visitors at a temporary buffet set up on the dock.

In the afternoon a large number of the refiners and their families took advantage of the invitation of the Carson interests to visit the new and complete export facilities of that organization. Automobiles took the visitors to a special train which had been chartered for the trip.

R. P. Beardsley of Cleveland and C. E. Smith, manager of the export plant, did the honors in exhibiting its facilities. The refiners were unable fully to express their surprise at the completeness of the canning, cooperage and loading arrangements.

Waterways, Aviation, Transportation

The possibility for future development of the oil business of the middle west as the broad Mississippi Valley develops industrially and economically was pointed out by Sheldon Clark, vice president, Sinclair Refining Co., Chicago, in his address before the March 9 session of the western refiner's convention at New Orleans on "Waterways, Aviation and Transportation as Affecting the Petroleum Business." He incorporated in it a resolution calling for the support of the association on the government deep water legislation.

THE word "transportation" in its broad term at once opens a field for the use of petroleum and its products second to none, embracing as it does movement on land, water and in the air, its use covers all modes of transportation and its possibilities therefore are enormous. To begin to portray this vast field would entail an exhaustive discussion of such things as the automobile, tractor, aeroplane, steamship, railroad, trolley, any one of which could readily be a treatise unto itself. Time and inclination therefore of necessity precludes any such attempt at the time.

While this great Mississippi Valley is not the largest plain on the surface of the earth, it is by far the richest and most desirable as a habitat of man. A certain scientist has endeavored to prove that the state of Texas, if intensely cultivated, could supply enough food to feed the peoples of the earth. If this be true, the Mississippi Valley, properly developed, could not only supply the peoples of the earth, but of the entire planetary system—if they be inhabited—as well; therefore the industries of the Valley could easily use all of the petroleum products we could hope to manufacture, if once the Valley gets anywhere near the development that is to mark the new epoch of construction and development in the United States. After each great war, business has recovered quicker. It took a matter of several decades to recover from the Thirty Years' War—a somewhat less period after the Napoleonic contest, and it was about ten years after the Civil War in our own country before the country got on a peaceful business basis again.

Historians predict that we may expect sound business conditions to prevail much sooner after the latest world war than was the case in previous centuries. In fact, business is now showing signs of finding itself and it would not surprise me if the coming year and the year after should show considerable improvement. Following the precedent of events after other great wars, business is trying to find its level and is looking for the best direction to take.

After the Civil War an intensive development of the United States took place. As soon as business conditions were stabilized and the unhealthy conditions caused by feverish speculation of the year or two after the war were done away with, the people turned to the Western plains to broaden out the activities of the country. There was ample room for the men from the big armies, and there was plenty of excitement and activity there in a business way to take the place of, and supply, the excitement to which they had been accustomed during the years of war.

As a result of this movement to the west, we have the United States as it is today, but the Mississippi Valley has by no means been exhausted, or even cultivated with anything like the degree of intensity of which it is capable. No one, I think, who has ridden from New Orleans to Chicago, or from Pittsburgh to Denver, will say the country is filled to overflowing, or that the last lick of work has been done in the development of its resources and transportation facilities in the richest and most habitable expanse of our territory. This being true, might it not be well for every line of industry in the Valley to look eagerly toward the future and concern itself with the problems before us, rather than consume our energies in matters over which we have no control, or can control only thru the expenditure of blood treasures.

When conditions are such that we cannot absorb the produce and give the farmer a fair share of the fruits of the country's prosperity or when prosperity depends upon the foreign trade from nations who are trading with us only because they are too busy fighting to produce for themselves, then that prosperity is unhealthy and we should not pine for it. While sad, it is undoubtedly true that the most prosperous periods of our country's history have corresponded with other nation's troubles, making them dependent upon us for supplies. This has been the history of hundreds of years of other nations' prosperity besides our own. There is one notable exception, and that was during the golden age of Augustus, when the Roman Empire was the world, and the world was at peace. If, thru their own efforts, the people of the Middle West can develop the resources of the Mississippi Valley until it reaches the stage where we shall not be dependent upon other nations' troubles for our prosperity, then and only then, can we look forward to such an age as prevailed when Octavious Ceaser was head of the Roman World.

Now if this terrane is capable of such super-development, the proper steps to be taken first along these routes are, as I have enumerated, good roads, good canals, and air service, to augment and supplement the railroads. In this scheme, it is most essential that New Orleans take its place as one of the great gateways of America. Most other outlets would be uneconomical. It would not take long to complete a real waterway from New Orleans to Chicago and the Great Lakes. We already have had enabling legislation passed for this project.

Right here I should like to quote an excerpt from an address of Mayor Thompson of Chicago delivered last summer, which seems appropriate at this time, he says:

"Let me mention one of the important things in reference to transportation. For the sake of comparison Chicago, like other mid western cities, had an advantage over the New England States for a number of years with the Alaska trade, the West Coast trade of the United States or the trade with China and Japan and the West Coast of South America. When the railroads were used almost exclusively, we were a thousand miles nearer those markets and we could ship cheaper and ship quicker. Things are different now. The Panama Canal has been built, and since it has been built, certain freight that used to be shipped transcontinental on rail for $20 a ton is now being shipped by vessel from New England through the Panama Canal to these markets I have mentioned for $7 a ton; and instead of us having an advantage, we have lost it, and a majority of the Mississippi Valley towns today, in order to compete with these factories in these localities, must not ship west by rail, but must ship east by rail a thousand miles in order to get into the same ship that our competitor is using, and I know that, when competition becomes keen and prices are cut to the lowest notch, the factory wheel in the middle west has got to stop before the factory wheel in New England will stop, on account of this disadvantage."

The construction of the "Great Lakes to the Gulf of St. Lawrence Waterways" will be another great step in the development of the Mississippi Valley. This is bound to come sooner or later and we can make it sooner, by getting busy now as individuals, giving to our congressmen and senators support in the fight they are waging against opposition of selfish interests located in one small portion of the United States.

The development of the air service might mean much to the ultimate victory of the United States in any trouble with foreign countries. We invented the art of flying, but have fallen down in its development, permitting others to take up and improve our early efforts, despite the fact that this country has the most logical of reasons to be foremost in this field. One can readily see that, when a real effort is made to develop our country as it is, it will point the way to real prosperity. We do not need to conquer new fields, we have enough to do to properly take care of what we have. If the work that needs doing in the way of good roads, good canals, and building, would be pushed along as it should be right now, there would be no business depression in this country. There would be no bread lines, and there would be no idle capital lying around with a possibility of being used across the seas in investments which might sooner or later embroil this country abroad.

Not long ago a certain Middle West bank loaned a foreign power a large sum of money at the time it was heralded far and wide as an astute piece of business on the part of the bank to cut into the foreign loan business. But

later developments have shown that perhaps it was not such a good deal, for the loan was defaulted and there may be no redress. For you and I and our neighbors are not going to send our sons to spill their blood on foreign soil that the treasure may be returned. In fact, the more we attend to our own business and help develop the resources of our own continent, and discourage this promiscuous investment of our capital in overseas projects, the better it may be for us. No doubt there are several big oil companies doing a great service to the cause of prosperity today which could have used the millions dumped into China's lap, and which would have paid it back, but even if this money had been loaned and lost in America, it would have been better than to have it go as it did. The policy advocated by a certain celebrated Argentinian that a government should not be held responsible for the money invested by its subjects in foreign localities, or that the government should pass on all financial deals which might involve the expenditure abroad at some future date, of the country's treasure, might not be out of place in the United States, when we consider the needs and possibilities of the great Mississippi Valley.

With The Refiners At New Orleans

SHELDON CLARK of the Sinclair Refining Co., Miss Chicago, 1st, 2nd and probably the 3rd—not meaning any feminine entangling alliances thereby but only his speed boats, skippered along the Mississippi river in his speech to the refiners. He chartered a pretty straight course from Chicago down to New Orleans, and so far as those at New Orleans could judge an equally straight one going back, and then, possibly appreciating the invigorating nature of fresh lake and sea air, at least for his audience, took them down the Great Lakes down the St. Lawrence and for a nice sail over the seas to all parts of the world, all the while digging a deep water channel and floating everything that America ever produced down it and to the world beyond. With deep sea steamers unloading at Chicago, it certainly would be much easier for all those well known gentlemen from Scotland, Messrs. Dewar, Walker, the Haig Brothers, etc., to visit this country. Clark lives in Chicago. Communication addressed to the Conway building and marked "personal and confidential" will have his immediate attention.

* * *

But there was one gentleman from Scotland present at the meeting with quite a bit of claim to fame, other than coming from the land made famous by Johnnie Walker and Harry Lauder. His name is Nicholson, manager of the New Orleans Refining Co., a subsidiary of the Royal Dutch Shell outfit. Mr. Nicholson just came over some six months ago. He was born alongside of the famous St. Andrews gold links in Scotland. His family ran a blacksmith shop where, assisted by young Nicholson after school hours, they made the iron heads for golf sticks.

Nicholson Jr. applied the rust proof paint to them. He knew all the famous golf experts, some from seeing them play and some from the credits they ran on his dad's books which he had to reduce despite the Scotchiness of the aforesaid experts. He went to school and then college, in fact put in a full young life time in Scotland right hard by the most famous golf links in the world.

He knows all about the game, can spot the stroke of a dub player, thinks Babe Ruth's swing is that of a full fledged golfer, and yet, harken ye, Nicholson never played a game of golf, or played at golf in his life and never expects to. He said he got his fill of it putting rust proof paint on the iron heads of the sticks and collecting coins therefore from the iron fists of the golfers. He's a man after my own heart. The next time I hope to learn that he doesn't play bridge either, then we'll start a new lodge of care free souls.

* * *

And speaking of golf, our friend G. G. Woodruff, sales manager of the Roxana Petroleum Co., at St. Louis, who attends all the oil meetings accompanied by his sack of golf clubs, and plays all the greens within 20 miles of each meeting, made the rounds at New Orleans and finished on the last links just in time to get to the $7.50 feed at the Saint Chas. hotel and prove to an admiring throng that he really had some other clothes than his golf disguise. For that Horace James, not recognizing him, gave him a place at the speakers table.

* *

Just before George Eggleston of the Southern Refining Co., San Antonio, boarded the train at San Antonio Tuesday morning to come to the refiners meeting, he stopped by the house of a young lady he had known for some time and the two stopped by a ministers and then came on to New Orleans by way of a honeymoon. Walter Campbell discovered the plight of the pair Wednesday and gave a dinner in their honor at Antoine's, one of those ancient of days French places where the floor is bare and the food good. There the dozen guests wished the pair well and then got to work on one of those unknown but delicious French dinners that have made the place famous for some several centuries more or less.

* * *

Bobby Sharpe of the General American Tank Car Co., who had his hip bone badly fractured in an automobile accident at Tulsa, last fall, surprised everyone by attending the refiners meeting. He put in many weeks in a hospital at Tulsa and was in one at Chicago for six months most of the time in a cast. He is walking with the aid of a cane and beginning to pick up some weight again. By keeping off his feet some he was able to be around quite a bit of the time. He is not back at work yet nor will be for some months. He and Mrs. Sharpe, with Charles Gustafson of Gustafson & Spencer and Jay Hoagland of the Union Petroleum Co. and their wives went over to Galveston from the meeting to stay a while.

* * *

Carl Mayhall came as a refiner of Imperial lineage of Ft. Worth and carried his disguise as a wholesale broker in his bag. He coursed about the lobby several times before putting it on, then found it wasn't any use for the Union Petroleum gang were ahead of him, sticking a quarter of a cent on the price of New Navy gasoline each morning, just to make sure the refiners—so it was said—would accept their invitation to visit their export terminal at Westwego above the city. Horace James collected dues from Mayhall as a refiner and then Ed Grant of the jobbers association, took the rest of the fun out of life by signing him up for the marketers association. A vicissitudinous day for Mayhall.

* * *

Walter Campbell, of the Darby-Campbell-Snowden crude oil, pipe line and marketing combination, of Tulsa, announced at the meeting, that he felt enough confidence in the price of oil to be planning another long trip this summer by his hotel-on-wheels—a White truck with a hotel body to accommodate his whole family—to tour up thru Wisconsin and Minnesota. Last summer with his family he put in four months driving out to the Pacific coast and up and down it from Vancouver to Los Angeles. They spent only eight nights in hotels, the remainder in their traveling home. He said it wasn't a bit tiresome keeping on the move that way and fishing your clothes out of a trunk every morning and making your own hot water.

* * *

Bill Kistler of the Producers & Refiners of Tulsa as vice president of the refiners association was one of these rough neck chairman, altho he wore a white collar and kept his cravat—get that cravat stuff—tied all the while. Whenever he had a question to put, regardless of the amount of contention there seemed to be over it in the meeting, he would call loudly "All those in favor please say 'Aye' and whether the chorus of 'Ayes' was loud or faint Bill would look the gathering over and solemnly announce "It carried" and not one of those ex-high-priced lawyers, who infest the oil business or maybe they were just plain lawyers minus the price, either didn't have the nerve or didn't mind it, for none called him to account for not getting the "noes", and a couple of times it was dollars to doughnuts the decision would have been close, even for such a steam roller as he seemed to operate. There's no place for the "noes" in Kistler's scheme of life.

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Louise D. Pierce of the Pennsylvania Petroleum Products Co. of Providence, R. I. came down to the New Orleans meeting. He first said he came down to buy something, then when he heard all the talk of no gasoline for sale today, he declared he came just to look things over.

Building And Operating A Refinery

A practical talk on "Art of Building and Practicality in Operating an Oil Refinery," was given by John L. Gray, president of the Barnsdall Refining Co., Bigheart, Okla., at the March 9 session of the Western Petroleum Refiners Association. Mr. Gray took up his subject in a very practical manner, including the location and size of a prospective plant, its crude supply and the nature of the operations it could most profitably undertake.

IT WOULD seem that the ideal situation for an oil refining enterprise would be to have ones own crude oil wells in the back yard of the refinery, flowing directly into the refinery storage tanks, and to sell all the products to the ultimate consumers just outside the refinery's front gate.

Thus would be had the minimum crude gathering and transportation and plant investment, and lowest delivery and marketing cost, and therefore would obtain the greatest realization from the crude oil refined. I should say the nearer you can approach such a situation with an oil refining enterprise the nearer you approach one hundred per cent ideal. We all know of old established and very successful companies which do not have all their own production; also those which do not pipe their own oil; also some which do not completely refine their oil, and a few possibly which do not distribute their products but sell largely wholesale. Hence, to be successful it is no essential that you produce and pipe your own oil nor that you should necessarily distribute it to the consuming trade.

In building a refinery the first question to be answered is where shall it be located? As it is not practical to transport refined products to market by pipe line, it follows that, generally speaking, the refinery should be moved to the market and the crude piped to it. It is, of course, the idea of the model refinery to make money in as large quantities as the cash available for the enterprise will permit. This immediately brings up the question of size or capacity of the plant. If the cash available in unlimited and you have a generous supply of ambition, you would probably not hesitate on anything short of sav 10,000 barrels per day. Such a sized plant is susceptible of efficient operation as well as permitting the installation of a very profitable pipe line system to deliver the crude oil to the refinery.

As markets capable of consuming 10,000 barrels of products per day do not lie immediately around the present producing fields, it follows that such a plant should be located in the more densely populated districts where the products may all be consumed as near your front gate as possible and hence, at the lowest cost to get them to market.

But assume you do not have unlimited cash available or are not 10,000 barrels ambition you must be satisfied to start on a smaller scale and let your refining business grow up with the country, so to speak. In such a case you should locate your refinery much nearer production in a territory capable of consuming its products, or locate it at most any point on a trunk pipe line and arrange to accumulate your oil in the field in 100,000 barrel lots and depend on the common carrier pipe lines to deliver it to your plant. Such large tenders for a small enterprise are a hardship and depending on the large pipe lines for your crude makes it necessary to be so equipped in plant and talent to successfully refine the varying quality of crude which will be delivered.

It precludes the selection of your crude but I believe even with these handicaps it is an emminently practical undertaking.

Or should the condition again arise where a skimming refining business would be profitable, the plant should be located near production. I believe, regardless of the size, on account of the temporary nature of the skimming refining business, pipe line, refinery and marketing investment should be kept to the minimum. I say temporary nature of the skimming refining business, because I believe to strip crude oil of its gasoline and possible kerosene and sell in the fuel oil the valuable lubricating oils, paraffine wax, as well as the potential gasoline in the gas oil is uneconomical and cannot endure.

In order to keep the refinery investment as low as possible so as to avoid a loss due to a failing crude supply in changing market conditions, it should, I believe, be built on wheels or as nearly on wheels as is practical. With this thought in mind I would suggest that the stills be of such a diameter as to permit shipment on cars, and that they be not set with permanent and expensive brick furnace and foundations in the good old-fashioned way; but that they be constructed with an internal flue or flues running from front stillhead to rear stillhead, which flue could be used for fire box heating surface, the flues being connected by means of a breeching to a steel stack at the rear.

Such stills could be set cheaply and quickly low on the ground and could be dismantled and loaded on cars quite readily. The condenser box should be a small affair and should be cheaply set on portable settings and removed with coil intact, and, by having a portable rundown house, horizontal sylindrical run tanks of a diameter permitting rail shipment and portable boilers, it would almost be possible "a la the Arab" to fold up your plant and silently steal away to a new gusher field where crude oil is being given away. This may impress you as visionary, but I believe it to be entirely practical to construct a plant along some such lines which would have the double attraction of low investment cost and high salvage value.

A complete refinery capable of extracting all the value from the crude oil is naturally much more expensive and should only be considered as a permanent enterprise. A large plant of this type should be located in a densely populated district supplied by its own pipe line; whereas a small plant may be located nearer production.

A complete refining enterprise shall include the building up of a distributing marketing business equal to the output of the refinery, which should be developed and enlarged coincident with the growth of the refinery.

To justify and make permanently secure the investment in an oil refining and marketing undertaking, it is important to have your own production or a large part of it. This is not only wise on account of the earnings to be made for the enterprise from the production, but also to assure the refinery a crude supply at all times under all conditions.

Not all of the old established and successful refining companies have their own production, but, where they do not have it there are allied or related companies which do have it or at least have the means of obtaining it through their extensive pipe line gathering systems, which is equally secure for them. So the crude oil supply situation will probably be the deciding factor in determining size and likewise location of plant.

If you can get together 10,000 barrels or more of settled production in the middle west in the center of a market capable of absorbing the products from such a quantity of crude, and there are plenty of them, build a pipe line to such location. Properly conceived pipe line undertakings have always been highly profitable, so that, with the production and pipe line, you have a very profitable enterprise up to the refinery. Such a refinery should run the greater part of the crude to coke and should crack up all the heavy distillate into motor spirit. Such a plant, even with today's low prices, is profitable. Now add to this system of production, pipe line, and complete refining the distribution of the products to the ultimate consumer and you have an oil refining enterprise over which no company has any handicap, and one which occupies a far better position than many of the old and very successful company's today.

It is unreasonable to expect to pay a heavy premium for your crude, a railroad transportation charge to deliver it to the refinery, refine it uncompletely, and have a long haul between you and your market, and compete profitably for business. It was possible during the war perhaps but is not such a condition always temporary, and must we not pursue the business on the same lines as the old successful companies in order to endure.

The complete and permanent plant should be laid out so that each part of it may be increased from year to year and so that after years of growth you will still have an ideally laid out plant and one which can therefore be operated efficiently.

Refining losses, particularly evaporation losses should be carefully guarded. All still gases should be passed to a gasoline liquefying plant to cover this point. It may be unnecessary under some conditions but in general it is a wise practice.

Ample tank capacity materially assists in the efficient operation of a complete refinery. Many refiners sustain losses on

account of insufficient tankage to permit setting aside certain products or to use sufficient stills to permit operating at an efficient rate. One quite usual shortage in refineries is that of boilers. I have heard it said by people old in the business that it seemed impossible to supply a refiner with sufficient steam.

No doubt where there is a steam shortage its use is curtailed, but is it not an uneconomical method of obtaining efficient use of steam, and do not losses due to reduced plant operation on account of low steam outweigh any check on steam consumption?

If the crude oil is to be run to coke the tower still principle should be employed so that, after the gasoline and kerosene have been removed in a topping plant, the residue can be run to coke and pressable parafine distillate produced, which will carry maximum lubricating oil to parafine wax with rerunning.

A paraffine pressing plant can be operated efficiently from a plant investment as well as operating cost point of view on 1500 barrels of distillate per day. This quantity of distillate will permit installation of sufficient large sized presses to produce a good operating condition. The wax from such quantity if distillate will also permit the installation of sweaters. Plenty of press capacity is desirable as it permits of slower pressing, which makes it possible to press distillate which has had minimum cracking, on which account minimum destruction of lubricating oil and paraffine wax has occurred.

In order to make satisfactory lubricating oils for all purposes many of them should be filtered. Large size filters are more economical to operate than small ones. I believe 25-ton filters an ideal size for most filter plant work. In the acid treatment of oils the old-fashioned agitation still seems to reign supreme for non-volatile oils, but for gasoline a continous system should be employed in order to eliminate evaporation losses.

For cracking up the heavy distillate for manufacture into motor spirits, the most successful process employed today with a large output is the Burton pressure process or similar pressure processes. I am told that the Burton patents with other allied patents completely control pressure distillation processes. There are other processes which have not been so highly developed now applied in such a large way, which I understand promise highly interesting results. The writer has spent considerable time during the past year in developing the Ramage process which we believe has many attractions. It is a non-pressure and continuous process. The yield is high and the cost low. It can be carried on in the largest sized stills.

The plant investment cost is much less than that of a pressure system. It can be applied to old stills and we believe to a continuous operating skimming plant, carrying on the distillation after the gasoline is removed, and passing the heavy oil vapors over iron oxide.

This process consists in passing oil vapor in the presence of steam over oxide or iron maintained about 1000° Fahr. temperature. We are told by the inventor that the carbon which otherwise results from the dissociation of the hydrocarbon vapor under these conditions combines with oxygen from the iron oxide which is reduced to a lower oxide, and the oxygen dissociated from the steam reoxidizes the lower oxide or iron.

The product is superior to gasoline for motor fuel, in that it gives over 20 per cent greater mileage, eliminates any engine knock, has greater pep, and power and deposits less carbon. It is about 51° Be. gravity, 110 Fahr. initial boiling point and 435 final distilling point.

Tulsa Banker Thinks Business Is Gaining

Grant R. McCullough, president of the First National Bank of Tulsa, attended the refiners' meeting with W. L. Kistler, vice president of the Producers & Refiners Co., one of his directors. With Mrs. McCullough and Mrs. Kistler they went on to Cuba with others of the refiners.

Mr. McCullough thinks that the worst is over in business generally and also in oil. His bank, for illustration, owed the Federal Reserve Bank some two million dollars last November and March 1st had paid it all up and increased their cash reserve to 35%, a showing that made him feel he could take the short vacation to New Orleans and Cuba.

Although there is a great deal of oil being produced, Mr. McCullough doesn't look for a drop in price of Mid-Continent crude, feeling that the summer demand and the world demand will soon pick up and with the decline in Mexico take up the slack and put the whole industry in a firmer position than it has enjoyed in years.

"But this time on the upgrade the banks of Tulsa and I believe of the southwest are going to look more closely to the needs of their legitimate customers and put the brakes on hard for the men who would speculate with money and the oil industry like some of the fly-by-night brokers, or marketers, who got into the business during the last advance," said Mr. McCullough. "There's no question but that the banks of Tulsa will use every endeavor to keep their money in absolutely correct channels that the industry itself may get the fullest benefit. At the present time, although I am optimistic about the crude oil market, I think the industry should use great caution in bringing in more crude."

Mr. McCullough dug around among the refiners, getting sentiment and as much additional knowledge of oil as possible. He puts in Friday visiting the large export terminals of the Union Petroleum Co. and the Carson Petroleum Co. up the river.

Was Ed Kidding 'Em Or They Kidding Him

Ed Perry, vice president of Cosden & Co., who hails from a town in Oklahoma which he rather vehemently declared is known to all except Julius Germany of the Panhandle Refrigerator Co. of Dallas, after being promised the job of toastmaster for the big $7.50 feed that the Dear Charles Hotel furnished the last evening, came down from Tulsa bright and early the opening morning and began a very careful tour of inspection of the city so as to be prepared to reply to the extemporaneous but anticipated remarks about New Orleans, the eye of the Gulf, etc., etc., which the president of the Chamber of Commerce or the mayor of the town or possibly the chief of police, would make at the opening of the aforesaid big feed.

Ed worked right hard at his self-elected task, for be it known a chairman, in order to put a meeting over with sang froid, or aplomb, or whatever it is that they use in French, must have some slight idea of what the speakers are talking about. He wasn't seen around the hotel all Wednesday nor until late Thursday when, disguised as a member of the nominating committee, he stopped by the hotel long enough to put his O. K. on George Moore as president.

Then Ed retired to further study and that evening, in commenting on the remarks of the president of the chamber of commerce, and preliminary to introducing the second speaker, Ed said that he was most happy to find, after his investigation of the city, that it had moved from a "liquid to a solid foundation."

The "gang", somewhat skeptical of his sincerity but willing to take him at his word and always ever willing to rub in any advantage, suggests to Ed herewith, that its too bad he lost his list of room numbers. If he had stopped by room 601, or 605, or 560, or 732 or most any other combination of figures, he would have found that the contractors were only estimating the cost of sinking caissons in the city's liquid foundation, preliminary to casting up some figures for the solid foundation which may come when Mr. Volstead has had time to get around to the Gulf coast country. Ed the innocent young thing, was the only man present who seemed to have located anything other than liquid foundation. (Maybe he came ashore sooner than the rest). He said all the early characters who had operated places of delight seemed to have changed mentioning Messrs. Antoine's, Sazerack and Romus (pardon but he meant Mr. Comus' little place right next door, ladies entrance just to the left.) Thereupon, he introduced as that well known representative financier, of that financial monument, etc. etc. etc. etc., just as if he dropped in on him every other day to cart off a few hundred thousand, that far-famed financier Mr. ah Mr. ah Mr. Don Newman, Mr. Dan Newman, Mr. Don Norman vice president of the Continental and Commercial of Chicago, meaning Dan Norman. But we knew what Ed meant even tho officially there isn't any liquid foundation under or around or about New Orleans.

Call Of The Antique Answered By Germany

J. A. Germany, Panhandle Refining Co., Dallas, vice president of the Western Petroleum Refiners Association, spent part of his spare time at the New Orleans convention browsing around the antique shops that flourish here. Mr. Germany is no amateur at this game either. He can pick out a piece of genuine old furniture from a collection of imitations, in such a manner that leaves the proprietor of the place no room for argument. His home contains many pieces that he has picked up in his trips about the country.

DECORAH, IA., March 10.—H. B. Montgomery has disposed of his interests in the Motor Supply Co., here, and will engage in jobbing gasoline and other petroleum products. He expects to have in operation before May 1 a drive-in service station at Water and State streets and will have bulk storage for six carloads of oil. He was engaged in the accessory business seven years.

Proper Handling Of Natural Gasoline

Practical suggestions on the use of natural gasoline, including a formula for determining the exact percentage necessary to raise the gravity of refinery products, were given in a paper by D. E. Buchanan, sales manager of Chestnut & Smith, Tulsa, delivered before the March 8 session of the Western Petroleum Refiners Association at New Orleans by A. V. Bourque, Secretary Association of Natural Gasoline Manufacturers.

NOT long ago refiners, almost universally, arranged their cuts according to their gravity requirements and, while it depended altogether upon particular crude they were running, in many cases it was necessary to cut considerably below the endpoint allowed, in order to make the required gravity. Now they are able to cut for endpoint only and build the gravity up by the addition of a small percentage of natural gasoline. From many crudes it is possible, by operating in this manner, to take off a thin cut of high gravity, low endpoint, straight run, usually 68-70, which is used for special purposes and commands a premium price. This method assures the maximum gasoline yield for skimming plant operation and has resulted in an appreciable increase over the yields obtained by previous methods. Indications point to a shortage of gasoline during the coming season and natural gasoline will be very much in demand as refiners will want to use every means at their command to increase their yield.

The principal advantage to be gained by the use of natural gasoline is the raising of gravity and lowering of initial boiling points with a product less valuable than the high gravity straight run which must be left in the gasoline unless natural basoline is used. Even though there be no cut of the high gravity taken off, there are many crudes that will produce a product too low in gravity, or with a high initial boiling point, or both, if cut for endpoint irrespective of gravity.

It has been proven by numerous laboratory and practical tests that the addition of natural gasoline to the refinery product, in quantities up to 15 per cent by volume, not only allows an increased gasoline yield from crude, but makes a better product from a standpoint of motor efficiency. No refiner need fear that the use of the proper quantity of natural gasoline will render his product undesirable from a standpoint of power, mileage, volatility or carbon. The Association of Natural Gasoline Manufacturers is prepared to furnish conclusive evidence to the effect that the economic value of straight run gasoline is enhanced by this operation.

The following simple rule is given for your guidance in determining the exact percentage of natural gasoline necessary to raise gravity of refinery products.

Let A—specific gravity of natural gasoline.

Let B=specific gravity of refinery stock.

Let C=specific gravity of gasoline desired.

Let X=percentage of natural gasoline necessary.

$$\frac{100\ (B-C)}{B-A} = X$$

Take for example a refinery stock testing 56 gravity, 160 initial, 437 endpoint which is to be brought to 58-60 New Navy specifications. By applying the above rule it will be determined that 10 per cent of 88 gravity natural gasoline (compression) or 13.7 per cent of 76 gravity material (absorption) will produce the desired result. Many refiners have been of the opinion that the use of even this percentage would render their product too volatile and wild for ordinary straight run use, but such is not the case. The initial of the product obtained in the operation above illustrated would be approximately 120° F. and if built up by the use of 88 gravity, 15-pound vapor tension gasoline, the vapor tension would be 3.3 pounds. If 76 gravity, 9-pound vapor tension were used the vapor tension would be 3 pounds. This is positive proof of the stability of the ultimate product.

Vapor Tension

Vapor tension of the product to be obtained by the introduction of natural gasoline into refinery stocks can always be determined by calculation before the mixture is prepared. The vapor tension of each product will exert itself in the proportion that it exists in the finished gasoline.

In refinery operation, not more than 15 per cent natural gasoline should be used in any event and this is not sufficient to have an appreciable effect on endpoint.

The following examples show, in a general way, the approximate effect of the addition of varying proportions of natural gasoline to refinery stocks, ranging in endpoint from 380° F. to 480° F., assuming that the stock is a consistent straight run product, properly refined:

Proportion of Natural Gasoline	Approximate Endpoint Reduction
5%	Practically nil
15%	Practically nil
25%	About 4° F.
50%	About 16° F.

From this it will be noted that the endpoints are not affected to any great extent, unless more than 25 per cent gasoline is used. You may be sure, however, that if the ordinary low endpoint, say 330 to 350 natural gasoline is used, the effect if any in this respect will be to lower the endpoint of your product.

Many refiners are undecided as to the relative merits of compression and absorption grades. Everything depends upon the facilities available for handling and where proper facilities are provided making it possible to handle the compression grade with minimum losses, the same results may be obtained from the use of only about 75 per cent of the outside material that would be required if absorption were used, and the investment per gallon is usually less.

The grade of compression gasoline most popular among refiners during the hot summer months is 80-84 gravity, 350 endpoint, 12 to 15-pound vapor tension. During the cooler months 84-87 or 87-90 gravity, 350 endpoint, vapor tension ranging from 13 to 18 pounds, is used with equal satisfaction. In absorption gasoline the demand is for 76-80 gravity, 350 endpoint, 9 to 10-pound vapor tension. The latter usually commands a premium of 1 cent to 2 cents on account of its lower volatility and the comparative ease with which it may be handled with negligible losses.

Natural gasoline manufactured from different gases and under varying plant conditions will contain different hydrocarbon compounds for a given gravity, initial boiling point, or vapor tension and on that account these factors are not true indices to the volatility of the product. The most consistent test for arriving at its stability is by determining the percentage vaporizing at 100° F., which is the total distillation loss plus the percentage recovered in the receiving cylinder at 100° F. This should not exceed 50 per cent in compression gasoline and should approximate 25 per cent in absorption. This, however, does not apply to natural gasoline manufactured by the charcoal absorption process nor to severely weathered high stage compression gasoline. These products are of great commercial value and are very stable even though they have a large percentage vaporizing at 100° F. An 85 gravity produced by the charcoal process will show 15 per cent more vaporization at 100° F. than ordinary absorption, but will have a vapor tension approximating 5 pounds and a distillation recovery of 94 per cent. This is due to the presence of large percentage of pentane which boils at about 97° F.

Opening of Cars

Before dome covers are removed the pressure must be relieved through the safety valves. In refineries where compression plants are providel to recover still, run down and storage vapors, it is common practice to recover the gasoline from the vapors given off while car pressure is being relieved. A suction line is provided at the unloading rack and vapors are recovered in many cases by placing close fitting hoods over the safety valves while they are discharging. Where there is a regular movement from one natural gasoline manufacturer to a certain refinery, it is an easy matter to have the dome covers equipped with a 2-inch nipple and stop cock or valve, to which the vapor line may be attached and the pressure relieved to the compressor plant in this way. (The Bureau of Explosives and M. C. B. Association have approved the equipment of cars in this manner.)

If this 2-inch connection is not provided, the safety valves should be raised by the use of the ordinary tripod valve lifter and the hooded arrangement provided to slip entirely over this tripod making a fairly close connection with the casing around the safety valves. In either event, where vapors are re-

claimed, the car should be equipped with a pressure gauge and the vapor line should be disconnected when the pressure is reduced to 1 or 1½ pounds. After disconnecting the vapor line the pressure should then be entirely relieved until the gauge registers zero, before the dome cover is removed. Cases have come to attention where parties in charge of unloading thought to reduce the pressure by spraying cold water over insulated cars. The water spray will have the desired effect on single shell cars, but will have no effect whatever on insulated cars.

Gauging

In gauging cars a wooden gauge pole should always be used and the outage, rather than contents of the car, should be measured. The gauge pole should barely touch the top of the liquid. During warm weather any metal substance allowed to enter the liquid will cause it to boil and aside from the losses, resulting from this operation, will render it impossible to secure an accurate gauge. On account of the initial boiling point usually being below atmospheric temperature, any article of metal allowed to fall into the car is liable to cause the contents to boil over the top and the element of danger attending an accident of this kind is readily apparent.

Sampling

In sampling the contents of the car the same care should be exercised to see that the temperature of the container, with which the sample is to be taken, is as near the initial boiling point of the gasoline as possible to get it.

Unloading

The practice of unloading cars by the use of air pressure has been employed in some instances but should be discouraged on account of the element of danger involved. The hazard attending a proper mixture of air and gasoline vapor is very great and there is on record one explosion resulting from this practice. In that case it is reported that the air compressor discharged directly into the line leading to the car and there were no non-return or check valves to prevent the gasoline vapors backing up into the air compressor. A pressure tank between the compressor and the car, properly equipped with check valves, might have averted the explosion but it would not have eliminated the hazard.

Where unloading cannot be accomplished by gravity, it is essential that the pump be below the bottom of the car. Where this is not done, the suction lift may sometimes cause trouble in priming the pump, especially in warm weather, due to the tendency of the gasoline to vaporize under vacuum, augmented by the temperature of the unloading line and pump cylinder. By employing the following methods very satisfactory results are being obtained in one large plant where natural gasoline shipments are received regularly. The unloading line, underground, running full length of the section of the rack on which natural gasoline is unloaded is connected with naphtha storage. Before opening the car outlet valve, the pump is started circulating naphtha through this line. After the line and pump are primed, the car outlet valve is opened and a valve between that point and the naphtha storage closed. This eliminates any trouble that might be experienced priming the pump.

Other refiners equip the unloading pump with a two-way suction line and pull naphtha or heavy gasoline into the pump with the natural gasoline. This mechanical mixing of the products in the pump will produce a perfect blend and materially reduce the evaporation after the product goes to storage. Where storage conditions and stocks render it possible, natural gasoline should always be mixed with refinery product immediately after taken from the car and where it is not possible to introduce naphtha or heavy gasoline into the unloading pump as above outlined, it is desirable to discharge directly into large quantities of the refinery product through a perforated pipe in the bottom of the storage tank. The best results are obtained by manifolding three or four perforated pipes. This breaks the natural gasoline up into small streams, insuring a better mixture than if discharged through one line.

The practice of pumping naphtha into the car as natural gasoline is being unloaded is followed at some plants. This gradually reduces the gravity, resulting in higher pump efficiency but is more tedious and expensive than the other methods outlined.

The ideal arrangement is one which permits unloading by gravity and entirely without the aid of pumps. Some refiners have provided underground storage into which the natural gasoline flows by gravity from the car. For pumping it out of this tank, they have set the liquid end of a pump on the bottom of the tank, employing the principle of the deep well water pump, eliminating entirely the suction lift.

Reduce Pump Clearance

It will be found that better results are obtained by using pumps in which the clearance in the liquid end has been reduced to the minimum. If the usual clearance is allowed, the light gasoline remaining in the cylinder after the discharge stroke has a tendency to gasify under the suction of the intake stroke (and in warm weather the temperature of the metal with which it comes in contact) and the efficiency of the pump is greatly impaired. One volume of gasoline expands approximately 200 times when converted to vapor. Assuming that ½ the gasoline remaining after the discharge stroke should vaporize, the gas generated by the intake stroke would fill the entire cylinder if the clearance amounted to 1 per cent.

It is essential that the lines through which this product is handled be protected from atmospheric temperature and best results will be obtained if they are placed underground. In hot weather where difficulty is encountered priming the pump, and naphtha is not available for use as above outlined, the difficulty may be relieved by using water to cool the liquid end of the pump and any part of the suction line that may be exposed. It is preferable to use a 3-inch or 4-inch, rather than a 2-inch unloading line in order to eliminate as much agitation of the product as possible.

Recovery of Escaping Vapors

Some refiners follow the practice of introducing the natural gasoline into their benzine, but this can only be practiced to the extent of 2 per cent or 3 per cent without heavy refining losses, unless the supply of cold condenser water is unlimited and even then in most cases, it will be found profitable to provide a compressor to recover the uncondensed vapors. Aside from still vapors to be recovered there are many refineries in which sufficient natural gasoline is kept in storage to warrant the installation of this compressor plant.

It has been proven possible to handle high gravity natural gasoline in large quantities at refineries with a loss ranging from 3 per cent to 4 per cent from the time the cars are opened until the finished gasoline is loaded out. This speaks very well indeed for the product, when it is taken into consideration that this is no greater than the loss sustained in refining light crude oil.

Where the facilities are available and the methods recited above can be employed, particularly the mixing with refinery products, immediately after unloading, we believe any desired result may be obtained with the least cost per gallon, by using high gravity compression gasoline, but where refinery stocks are limited and it is necessary to carry the material on hand in its original state, we recommend the absorption product as its ratio of volatility is much lower and this factor will reflect directly in storage losses.

Doctor Test

A demand for natural gasoline guaranteed to pass doctor test developed during the past twelve months, principally among refiners filling export orders. Treating facilities have been installed by a few natural gasoline manufacturers in order that they might be in position to meet this new demand. Considerable difficulty was encountered as it was found to be an entirely different proposition than the treating of refinery products. However, the process has been developed to the point where they are able to guarantee doctor test with perfect safety. This material commands a premium of 1 cent per gallon on account of the loss and extra handling involved. In respect to the doctor test, natural gasoline is very erratic. Plant production one day may be positive on this test and the next day negative from no apparent cause. Although some few plants produce a gasoline that will uniformly pass, such plants are the exception. Experience shows that if the refinery stock is well treated and passes a severe doctor test, the introduction of as much as 15 per cent to 20 per cent of natural gasoline unless it be decidedly positive, will not usually affect the test of the finished product.

Stratification

Some are still of the opinion that it is possible to build up a refinery product with natural gasoline and eliminate the possibility of stratification. Some of the large manufacturers have conducted extensive experiemnts along this line and have found, without exception, that thorough mechanical mixing unites the hydrocarbons in such a way that stratification positively does not occur and it is only where the products have not been thoroughly mixed that it is possible to secure varying gravities on samples taken from the top and bottom of a car. For disinterested authority on this subject see pages 95 and 96 Bureau of Mines Bulletin 151, by W. P. Dykema.

Independents Must Improve Methods

The views of E. E. Shock, Indiahoma Refining Co., St. Louis and former president of the western refiners' association, on the future before Independent refiners, were seasoned and spiced by his long experience in the business and were for that reason the more valuable to his audience. His talk was given at the March 9 session of the New Orleans meeting.

1921

EVER since I read about Lot's wife having a lot of bad luck looking backward, I have had a distaste for this pastime; I have no desire for things gone by. 1921 has gone, THANK GOD, let us look to the future.

1922

The large part of 1922 is before us, and it will be for us just what you men, who are sitting before me, make it. There is a lot of misapprehension, a lot of dissatisfaction, and a lot of mistaken ideas about the present condition of the oil business.

You will pardon me if I refer to rhyme to get started away and I assure you these few lines do not pertain to the fair sex.

I've taken my loves where I found them,
And strictly for that that they had,
I have no disposition to hound 'em,
Because some one said they were bad,
Only wanting assurance to know they were true,
We should all be willing to give the devil his due.

That I can tell the truth I hope you will concede.

On this occasion I am not going to call a brick a downy pillow, nor yet give attar of roses the name of asafetida.

It is time the prejudices of half a century should be broken, no matter how they have been justified, and instead of wasting our time in dissension and senseless, useless wrangling, we should take this gift of God "Petroleum," and so handle it that we may deliver to the world its products so it may be utilized to the full, and at the least possible price to the public.

One of the things that made the Standard Oil Company prosper was the fact they became the greatest philanthropists of all time when they changed the cost of the lighting in the humblest home from 75 cents a gallon for kerosene—the price fifty years ago—to 15 cents a gallon—the price at this time, and by the process put untold millions into their treasury; this by improving the methods of operation and cultivating the use of things found in crude oil.

Most of you here know that I have not been afraid to criticise when I thought things were wrong, and I hope you will bear with me in this talk, if I found a lot of white where black was supposed to be.

As long as the world stands, the name of John D. Rockefeller will be associated with petroleum. Though I have never met him, I have a lot of respect for a man who had the vision to pick up the corps of men he surrounded himself with in the beginning —everyone a lion—better able to do the part assigned to him than any other man in the world; then have the wisdom to make the foundation, lay out the rules by which has grown the mightiest business organization the world has ever known.

Let me digress for a moment. While I have no briefs to write for the Standard Oil Company, I am trying to find a true foundation upon which we Independents can build our structure and have it stand. Mr. Rockefeller had been accused of every villainous thing in the category of crime. In all the years I have never seen one reply from him to any of these accusations. This could only mean one thing to me; that he, knowing in his heart that he was right, did not care a damn about anybody's opinion. I can assure you that, under the same circumstances, my Irish ancestors would have asserted themselves and there would have been two sides to the fight. Be that as it may, "Know all and everybody, that truth and right will prevail, for truth is truth and cannot be destroyed; while falseness and deceit cannot help but go the way of all perishable things." If the Standard Oil Company had not been founded upon truth and right and was not fundamentally sound at this time, and conducted along honest lines, it would have long ago been eaten out from the inside, and would have passed into the place in history which contains all failures.

The method of doing business changes with each decade. Like my friend Benson, of the Tide Water Oil Company, I believe there is an Almighty who is taking care of many things and I am very happy to say that the business methods in the last fifty years have very materially changed for the better.

The Standard Oil Company, when it was organized, used the methods of its time. The corner grocer, on one side of the street, used the same methods against its competitor on the other side of the street that the Standard Oil Company used against its competitors; that is—it threw every brick it had in its alley. The only thing different was this—The "Sage of Pocantico Hills," with the wonderful vision I think God gave him for a purpose, grew such a lusty child that it looked like a grown-up man fighting a five-year-old child. Therefore the Standard Oil Company was blamed for doing what everybody else would have done in those times had they been able.

As for myself after having a canning factory thrust upon me, by having to pay its note I foolishly signed, I tried to find a way to run it so it would pay back the money I had lost. Upon investigation I found that the railroad rates on canned goods were terriffic. That was the day of gentleman's agreements among the railroads, and, Oh, Ye Gods—What Gentlemen! I went out and made an agreement with the railroads that I would ship these canned goods and pay the rates in force; they were to rebate me for half of it. I can assure you, they were gentlemen, for they returned me my half.

Going home for Christmas this year I met a young man who graduated from college with a peculiar bent for research, and a desire to follow it. He looked around for a way to utilize his particular talent and went to the Rockefeller Foundation. He was put to work at a salary of $2000 a year, which has since been increased to 4000. He was supplied with all the paraphernalia that money could buy. He had access to the records and to the counsel of everything in the world pertaining to this particular thing. He is today working on the diseases of human beings which are caused by the germs originating from animals.

A wonderful vision arose before me, for I firmly believe the day will come through the work of the Rockefeller Foundation, when two precious human lives will be where only one has been before, and, where a sickly human plant had grown, a mighty human oak will be.

It is wonderful to be able to accumulate one billion dollars. It is much more wonderful to have the ability to accumulate this money and then have the ability to dispose of it in such a way that, in the years to come, human beings will profit for its having been brought together. I firmly believe that Providence put the money Mr. Rockefeller has made in his hands that he might do just what he has done with it. If the Rockefeller Foundation does no other thing than solve the question of Pellegra in the south, then the accumulation of these dollars is justified, no matter what the methods of accumulation were. Time, I firmly believe, will show, when the prejudices and heartaches of our generation are gone, John D. Rockefeller as the most revered philanthropist of all time.

I realize that from an Independent this is "lese majesty" and nothing less than all of the crimes that an Independent can commit, but I am not afraid to stand by what I say. Heretofore, I have said the only reason why I did not join the Standard Oil Company was because they would not join me. I have changed my mind. I feel that my organization is good enough to make more money than in the Standard organization. Everyone of you can tell the same if you are willing to give to your business the last ounce of your whole being.

There is no secret to success. It only takes unlimited hours of intense and intelligent effort consistently applied. Mistake not, while Col. Stuart Walter Teagle, "Jimmie" Moffett, and scores of others of the Standard organization are living, they are not going to run their companies as charity organizations to foster Independent competition. The only thing they really fear in the world is that, in handling these immense business machines, they do not

knock out some poor competitor that they hardly knew was there. They are like an elephant that, in walking down the road, steps on a mouse and crushes out its life, and goes on, never knowing it had killed it, if the odor that would rise did not attract attention.

As an illustration I have been interested, for my company, in the consummation of a deal that involved the sale of a piece of real estate and some tank installations by one of the best Independent concerns to one of the Standard organizations. This Independent concern had stopped doing business and it was very necessary, for the good of the Independent concern directly interested, and also for the good of my own company, that this transaction be made and be made promptly. Some unaccountable force was holding it up. Coming on to New York to try to expedite the matter, I found out the only reason the deal was not being consummated promptly was the fact that the Standard's attorneys were not willing to O. K. the deal, pending their consideration of the question as to whether the public might not get the impression that they were buying out competitors to put them out of business. The facts were that in this transaction the Standard Oil Company was taking over a plant that was not being used; and, through paying a fair price for it, that company was indirectly saving two Independent concerns from possible financial trouble.

It has not been to laud the Standard Oil Company that the foregoing has been delivered to you, but only as a brick to waken the industry to the fact it is time we Independent oil men look the truth right in the face and see that we improve our methods, so that we can compete. If we cannot we are not entitled to our place in the Petroleum World. If we cannot improve our methods and utilize every advantage we have, and be able to give to our business the personal touch that will win, we will go the way of all things unfit, and pass into discard.

We of the middle west have had a flood of magnificent crude, and have arranged to run volume instead of utilizing the best methods. We come into competition with the Standard of Indiana more particularly than any other organization. With that human dynamo, Col. Robert W. Stewart, pushing that company, the effect is going to be to increase its sales greatly. We must work just as effectively if we expect to hold our place. A movement was started by which we can improve our selling methods if we unitedly get in behind and help. That is the sales organization formed a year ago, through which a great many refiners are doing more or less business.

We must do everything in our power to increase the use of oil of any kind. We need especially some other method of handling fuel oil, either by cracking processes, or by developing trade in internal combustion engines that can use heavier oil than gas oil, or by making our residue into lubricating oil. We must make two demands grow where only one has been.

This can be helped out by encouraging the use of oil as a domestic fuel in houses—to take the place of hard coal—which is almost impossible to get at this time. A committee was appointed some time ago to check that up. It has a wonderful field before it.

The cracking processes are various and as different in their efficiency as there are numbers in existence. The necessity of meeting the world demand is going to force us to utilize every avenue to make two gallons of gasoline where only one has been made before.

Our Relations to Railroads

About a year ago I started a movement to make a compromise agreement with the railroads by which a readjustment of railroad rates could be made, so that the distribution of our products could be made more widely over the United States. This met with a hearty response from the railroads but was somewhat muddled at the meeting in New York by a fighting element stepping in where only diplomatic methods should have been used.

We should see that this does not occur again. The operating end of the railroads is with us, but the efficiency of the roads is hampered by a lot of damn fool legislation. We should help the railroads in their efforts to come out from under this handicap. The fact of the matter is, the railroads and the Independent oil industry ought to take each other by the hand and march down to prosperity for both, for this reason—that the railroad expenses are going on just the same, whether the traffic is hauled or not. The overhead of the railroads would be practically the same doing 100 per cent more business than they are doing today.

Railroads can haul oil over railroads already built cheaper than it can be pumped through a pipe line that is to be built, but no oil tonnage, having once gone into a pipe line, will ever be taken out and given to a railroad.

New arteries for oil must be made from every new pool discovered. Practically all of these are connected now in some way with some railroad. Therefore, if we made a pipe line of railroads already built, instead of spending millions of dollars building new pipe lines, we will not only have saved a large capital investment in this way, but we will have made a profitable investment out of some probably broken-down railroad.

The railroads are here. Their organizations are complete. They have no more than half the business they can do with their present equipment. They have tried to increase revenue by raising rates to an abnormal level. They have only succeeded in almost paralyzing the business of these United States and cutting their revenue more than it was before by driving their business into boats, trucks and pipelines.

There was a practical demonstration of a theory I have had for a long time, when the Mexia field opened. One of the prominent oil companies made a deal with one of the prominent producing companies of Mexia by which they were to handle half of their production and they were talking of building a pipeline. I went to the two railroads running south out of Mexia, telling them they should save this oil tonnage by granting the oil company a rate cheaper than they could build and operate a pipe line. I told them that, if they let this pipe line be built, they would lose this tonnage forever. I told one of the vice-presidents of the oil company they could probably arrange to handle their business over the railroads cheaper than through the pipeline. For some reason they did not get together. If they had done this the oil company could have retained in its treasury at least $5,000,000, they are spending for a pipe line and the railroad would have doubled its business. A lot of money would have been made for the railroad and a lot of money saved for the oil company, for after the pipe line is built the oil company will have to maintain at least five stations on the 260 miles of line in order to pump 25,000 barrels of oil a day through it. The railroad could have done the same work with two engines and two crews, or with one engine and two crews, if they were willing to run an engine over 200 miles of track, this being the distance from Mexia to Houston.

Each one of these five pumping stations will cost as much money as an engine and caboose, the equipment the railroad would have had to furnish to do this tonnage. Each one of the pump stations would have to have as many employees as a train crew. At the present rates a train of oil will net the railroad over $14,000. The Southern Pacific can haul 25,000 barrels of oil in one train from Mexia to Houston. When the oil company gets its pipeline built into Mexia, the Mexia field will be long past its prime and in order to keep this pipe line busy, extensions will have to be continuously made into new pools.

These new pools will undoubtedly be connected when discovered by some kind of railroad facilities. The saving in capital investment would be very large if this tonnage could be given to the railroads. The placing of this tonnage on the railroads would enable them to distribute their overhead over a large amount of business rather than a small amount of business, therefore making a profit on the old business, which has not been paying expenses before, while now a pipeline will be operated more or less empty and the railroad will operate more or less without tonnage.

When and where will this economic waste stop? When will railroads be as wise as the Old Standard Oil Company which made billions of dollars by reducing the price of kerosene from 75 cents a gallon to 15 cents a gallon?

Railroads can only get rich by reducing the rates until business will move over them, and this country will become red-blooded and prosperous again as soon as the railroads, which are the arteries that supply the red blood to commerce in these United States, make rates so that traffic will circulate.

There is another very bad feature in the oil business that we should adopt some new method to correct. People with no fitness or knowledge of the business are taking money from the gullible public and spending it in a way that can give the gullible public no hope of return, nor the Independent industry be able to take any credit for. It is this sort of companies that are making it impossible for the oil business to get on an even keel.

My opinion is that a school of instruction should be conducted with a lot of publicity to show the gullible public that the oil business is a regular business that can only be handled by men trained to the work, who are wil-

ling to give to it their utmost intelligence, energy and unfailing honesty, that their particular company may prosper. Any business in which a few people make a lot of money quickly and apparently as easy as picking it off a tree, as in the oil business, is bound to be hampered by a lot of crooks whose only thought is to sell a lot of spurious stock to widows, orphans and people who cannot afford to lose it, and with no intention of running a regular oil business. These companies often build a refinery, then help to destroy all legitimate efforts of real oil companies to work on a proper basis.

Now, a Gould makes his money by ruthlessly tearing down; a Harriman makes untold millions by making a Union Pacific, a very efficient artery for American commerce. Let us all try to be Harrimans. Let us pull together for the good of ourselves, and the industry that we represent. But most of all for the people of the U. S., who have a right to receive from us **the most potent driving force known in the world today that can be obtained at a reasonable price.** We must give it to them at the very lowest price that can be made, and make reasonable returns for ourselves.

Now, if what I have told you is the truth it will not die here; if not, it will resolve itself into a misty—mist—to be blown away by the passing breeze.

Producer And Refiner Co-operation

Urging closer relations between the producers and refiners for their mutual advantage, W. H. Gray, president of the National Association of Independent Oil Producers, addressed the second session of the convention on March 8.

I HAVE been asked by your Secretary to discuss the relation of the Independent producer to the Independent refiner, and incidentally to discuss the position of both of them as it is, and will be affected by importations of oil from foreign countries and especially from Mexico.

"I think there has not been the team work heretofore between the Independent producer and the Independent refiner that there should have been, and that I am sure there will be in the future. One of the main difficulties between the two has been the question of premiums. The Independent refiner has always complained because he was compelled to pay premiums, and many Independent producers have always regarded the Independent refiner as legitimate prey and have been willing to gouge him for almost any amount of premiums. The fact of the matter is that the payment of premiums by the Independent refiner is no more nor less than a gravity basis of purchasing oil. The Standard Oil Company has not been willing to adopt a gravity basis for purchasing oil in its strictest sense. They have undertaken to establish a gravity system by districts; in one field paying one price based on the values in the oil. However, if there happened to be oil of various gravities in the same field they would establish one price for it all, and of course, in these districts the heavy grades of oil would command a higher price than it was entitled to receive and the high gravity oil would command a price which would be less than its actual value. This method of price-making on the part of the Standard Oil Company enabled the Independent refiner to establish a gravity basis, and in many instances to pay a premium over the Standard Oil Company's price and make money: therefore, the Independent refiner is justified in paying premiums and the Independent producer is justified in demanding them. The point that should be watched is the size of the premiums—the Independent producer should not ask too much and the Independent refiner should not be willing to concede too much, for in the end this will be for the good of either. There should be a closer relationship between the Independent producer and the Independent refiner than there really is in order that all could co-operate in an effort to maintain reasonable and fair prices based on the gravity of oil between the two groups.

"Last summer when I was urging Congress to place a tariff on Mexican crude, I told them that crude oil, when refined, divided itself into two ends—the high and the low, and that while many various products were made from it, yet for the purpose of establishing a price to be paid for it, the producer and refiner divided this oil into two parts, one of which they call the high ends, namely, gasoline and naptha, and the other they call the low ends, namely, fuel oil and gas oil, and whenever there was an over-production or an under-consumption of one of these ends, the price would have to go on the other end in order to sustain the price of crude oil in this country, and that the unbridled importations of low gravity oil from Mexico, because of the predominating low ends which it contains, would ultimately mean a high price for gasoline. We have now reached the point where that prophecy has come true. A strong gasoline market in the dead of winter and a weak fuel oil market. The consumer of gasoline is carrying the load, and unless there is a distinct change in the situation in the very near future, the consumer of gasoline must carry a heavier load.

Shortage of Light Oil

"That there is an under-consumption of heavy oils will not be denied, and it may be said that there is a shortage of light gravity crude. One of the problems, therefore, which the Independent producer and the Independent refiner should work together on is that of supporting the market for low gravity crude, and for the low ends which the refiners are turning out. In order to accomplish this the Independent refiner must give more consideration in the future to the matter of storage and less attention to the matter of plant expansion, and there should be some system worked out between the producer and refiner by which, during the gasoline season when the demand is strong and consumption heavy, the light ends of this oil could be taken out and sold on the market and the heavy ends stored for the joint account of the refiner and producer until the winter season could absorb it. There is no fuel in the world which can be stored with any less loss than oil. It can be insured against fire at low rates, and can be held in storage for many years without deteriorating in value. It is up to both the producer and refiner to sustain the fuel oil market during the coming year in order that the price of gasoline may not reach such levels that consumption will be affected.

"That there is an over-production of heavy oil can hardly be denied by anyone acquainted with the oil situation. In order that you may appreciate fully that consumption is not keeping pace with production, I wish to state to you that oil from the Panico District in Mexico is being sold at the well for 25c to 30c per barrel, while light gravity oil from the Toteco District in being sold at $1.00 per barrel. Healdton crude, situated in the heart of the great Mid-Continent field is being sold for $1.00 per barrel, while light gravity crude a few miles away from it is being sold at $2.40 per barrel. Fuel oil is being delivered at Atlantic seaboard points at from seventy-five cents to $1.00 per barrel. From the Panico crude no gasoline can be extracted, while from the Toteco field they are getting from 12 per cent to 16 per cent of gasoline and naphtha, and it is this gasoline which brings up the price of that crude.

"Much speculation is being indulged in by geologists and prognosticators as to just when Mexico will cease to be a factor in price making in this country. They tell us from time to time that Mexico will soon be a thing of the past. This may be true. However, nothing is ever true in the oil business until it happens.

"From the fields that lie along the Panmeco River approximately 125,000 barrels of very low gravity crude are being gathered daily, very satisfactory for fuel oil. From the Golden Lane, which runs from the Dos Bocas well south for a distance of 45 miles, there are now being gathered about 440,000 barrels of crude per day, 370,000 barrels of which comes from the Toteco-Sero-Azul pool, and the balance from the few wells located on the high spots in the old exhausted pools. The production in the Panico District can be increased, but the low price which that oil now commands does not encourage development. The wells situated to the south in the old, abandoned, exhausted fields will ultimately go to water. The Toteco pool will, of course, some day be exhausted, but south of Dos Bocas along the Golden Lane another pool of 14 gravity oil has recently been discovered which will undoubtedly yield a good many million barrels. The Mexican Eagle Company, an English concern, has recently discovered a new field, the possibilities of which are yet unknown. I think the producers and refiners of this country may look forward to the discovery of a great many other pools in Mexico. It is extremely unlikely that there will be another prolific producing area of light oil discovered in the near future such as the Tamisopa Lime Formations heretofore

referred to as the Golden Lane, but there will always be produced a large quantity of heavy oil.

"Turning from Mexico to other foreign fields, Vanezuela has vast deposits of low gravity crude, accessible to the coast, and preparations are now being made to market this as soon as it is needed.

"Let us now turn to a study of the crude position of the United States and see if there is not a shortage of light oil in our own country. During the year 1921 there was an increase in the consumption of gasoline in the United States equal to at least 10 per cent. The total consumption of crude oil in the United States amounted to approximately 1,400,000 barrels per day; therefore, in order to supply the demands of the consumer of gasoline, it was necessary to either increase the amount of gasoline secured from the crude, or else refine 140,000 barrels more a day in 1921 than was refined in 1920. And if we are to concede that consumption of gasoline in 1922 will be 10 per cent greater than consumption in 1921, then in order to supply the demand, it will be necessary to increase the amount of gasoline taken from the crude or else it will require the refining of 150,000 barrels a day more in 1922 than it did in 1921. It is difficult for me to see how this increase in the consumption of gasoline this year can be taken care of by increasing the amount of gasoline taken from the oil, and therefore, the increase must be taken care of, to a large extent, by increasing the amount of oil put through the refineries. This will not be possible unless new discoveries are quickly made.

"Let us take the figures for the Mid-Continent field and make a comparison of production by months for the last six months of 1921 compared with the last six months of 1920. This discloses a continual weakening in the crude position of the Mid-Continent in so far as light oil is concerned, and this continual weakening of the crude position was entirely due to the low price which producers were receiving, which price was entirely due to the excessive importation of heavy oils from Mexico.

"I desire particularly to call your attention to the comparison of the production of the North Texas area during the months of December, 1920, and December, 1921, and also to that of Kansas for the same period, both of which are among the greatest light oil producing areas in the world. North Texas had a production of 83,188 barrels a day less in December, 1921, than it had in December, 1920, and Kansas had a production of 10,800 barrels less, while Oklahoma, for the same period, showed a gain of 24,966 barrels. This loss in these two great light oil producing states was not offset by the production from the Mexia pool in Texas for the simple reason that the gasoline content of Mexia crude is not to be compared with that of North Texas, Oklahoma and Kansas.

"In closing I wish to emphasize the point that the problem before the oil industry of the United States is not one of securing the same amount of light oil in 1922 that was secured in 1921, but that of securing more, and in order to secure this light oil it is necessary that the price must further be raised, and the lower the price received for fuel oil, the greater amount must be added to the price of gasoline. If the disparity between the price of fuel oil and the price of gasoline continues to grow, the Standard Oil Company will ultimately be compelled to abandon its present policy of making prices on crude oil and to adopt the gravity basis, which, in my judgment, would be the hardest blow yet struck against the Independent refining interests; therefore, the producer and refiner, both large and small, must work together to support the market for low gravity products."

Urges Less Railroad Regulation

A PLEA for greater consideration of the viewpoint of the railroads on the part of American industry as a means of preventing government ownership and the growth of the soviet idea was made in an address to the convention of the Western Petroleum Refiners Association at the March 9 session of its New Orleans convention by Samuel O. Dunn, editor of *The Railway Age.*

Speaking on the subject of "Railroad Problems and General Business" Mr. Dunn devoted virtually his entire address to the problem of a satisfactory net return of the transportation interests. He dealt in detail with the effects of too drastic reductions in rates at the present time.

"The principal things that you, as producers and shippers, want the railways to give you are low rates and good adequate service," Mr. Dunn said. "But you do not want low rates and good and adequate service merely today, or tomorrow or the next six months. The success of your business depends on your being able to count on these in future years. An early and comparatively small reduction of rates which was obtained at the cost of preventing still greater reductions in the future, and at the cost of poor and inadequate service for a long period would be too dearly bought. Now, although most business men believe that an early general reduction of rates would help them solve their railroad problems, I contend that it would make rates higher and railway service poorer and more inadequate in future years.

"Developing the idea that all reductions in expenses in the United States have been with the aid of capital investments in improved labor-saving equipment and not in the reduction of net return to investors, Mr. Dunn maintained that the future success of the railroads will lie in enlarging and improving its properties. He stated that some economies will be achieved through wage reductions and by like methods but gave it as his opinion that railroad workers will never put in such long hours at such low wages as before the war.

"The whole history of American industry has shown that the tendency has been to pay higher and higher wages to labor, and at the same time to secure lower and lower production costs and make lower prices, he said. This was done by the investment of capital for the express purpose of effecting these economies.

"They cannot make these improvements unless they can raise capital," said Mr. Dunn, "and they cannot raise capital unless they can show that their current and prospective net return is sufficient to justify investors in loaning them money and buying their stocks. It necessarily follows that if you and other patrons of the railways insist now and in the future upon their net return being so limited that they are unable to raise sufficient capital to make improvements needed you will prevent them from effecting economies and thereby make it impossible for them to make as low rates as they otherwise could make."

Citing history in the past Mr. Dunn showed that in the years before the war the railroads made increasing returns each year although they paid higher prices for fuel, labor and equipment merely through increasing their efficiency through investment.

He showed graphically the present low net returns of the railroads and pointed to the fact that investment in railroad securities had slowed down as regulations have increased and that as investments have fallen away the net returns have dwindled.

Mr. Dunn gave his opinion that the railroads cannot with their present facilities handle more traffic than they did in 1920. He indicated that all business might be held up with a trade revival and no adequate facilities for rail transportation.

Questioning the attitude of the public towards the railroads in the future Mr. Dunn stated that the ownership of the roads will depend on the net return that they are allowed to earn.

"In the past the greatest outbursts of public sentiment against the railroads always have been caused by inability of producing and commercial interests to get all the railroad transportation that they have needed when they have needed it. If we may judge the future by the past, a great excess of demand for transportation over supply available would result in a teriffic outburst of public sentiment against private ownership. If we ever get government ownership of railways in this country it will not be a result of thoughtful and sober discussion and decision, but of some violent public outburst precipitated by inability of the railroads to handle satisfactorily the country's commerce."

Pointing to the precedent which government ownership of the railroads would set up Mr. Dunn prophesied that such a victory for the radical elements would enable them to take up with renewed strength their campaign to widen the scope of governmental ownership to other lines of industry.

"This struggle in which we are engaged over the country's railroad policy is fundamentally a struggle to determine whether we shall follow a policy which will enable the railroads to prosper reasonably and develop adequately under private ownership, or whether we shall follow a policy which will make it impossible for them to develop and force them into government ownership, and which will thereby start a revolution that will imperil the entire industrial, economic and political system of the United States."

Fire Prevention Measures Feature Plant Of Oklahoma P. & R. Company

TULSA, March 9

By V. B. Guthrie
STAFF REPRESENTATIVE

SEVERAL features which are new in refinery construction, including some adopted chiefly as fire prevention measures, have been worked out at the Muskogee plant of the Oklahoma Producing & Refining Corp. This plant has been practically remodeled under the direction of G. A. McBride, superintendent, the work going on while the old plant remained in operation at a good share of its total crude capacity.

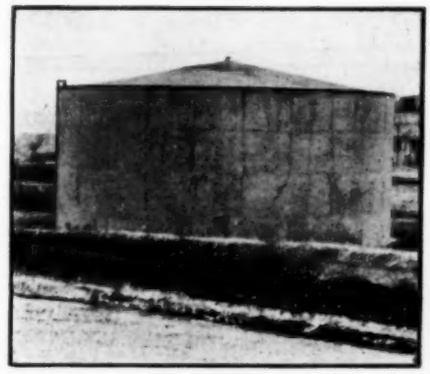
The outstanding feature is the general use of underground concrete storage in place of above-ground steel tankage, the effect of which will be to reduce greatly the cost of the fire insurance the plant carries. Mr. McBride, who has been at the head of this refinery for a good many years, has had considerable experience with concrete storage for various oil products. In fact one 400,000-gallon tank was in service at the plant before his connection there. So successful has his experience been that he is now replacing steel roofs on his steel tanks with four-inch reinforced concrete roof.

Mr. McBride gives as the chief reason for his company's success with this type of storage the fact that it has access to a grade of gravel particularly fitted for fine concrete work, which might not be available at a reasonable cost to every oil company plant; and also to the fact that the work of mixing and pouring the concrete is very conscientiously done, particularly with regard to puddling, that is tamping down the concrete as it is poured into the forms, which makes it fine grained and aids greatly in making it impervious to the action of its oil contents.

No Leaks Are Found

The 400,000-gallon tank has been in service 14 years. It was used for storing crude first and has been in use for storing gas oil for nine years. Twice a year the company digs holes at various points outside the tank to determine if leaks have developed in the walls. The outside of the tank upon examination in every case has been found to be dry and there has been no trace of oil, such as would spread over a considerable portion of the outside wall, were a leak to develop. A gauge of the oil placed in the tank would show if there were any leaks of consequence also.

Six years ago Superintendent McBride built three 50,000-gallon semi-underground tanks, the walls projecting 18 inches above grade and this portion of the walls and the top being covered with earth. These tanks are round with cone-shaped bottoms, the bottom of the cone terminating in two-foot square, 18-inch deep sumps, from which water or sediment can be drawn off. The walls of these tanks are eight inches thick. The ordinary method of mixing the concrete, and universal proportions for the gravel, cement and water were used, continuous pouring being used, the roof which is four inches thick being built into the walls. The interiors of these tanks were lined with a patented shellac, furnished by W. M. Bowles & Sons, then in business at Kansas City.



The 5,000-barrel electric welded steel storage tank which has been in use two years for storing crude. It has not been repainted. The company also uses two 500-barrel electric welded lub oil tanks.

These tanks have been used principally to store naptha and gasoline. One was used for distillate and was then cleaned out and used for storing 58-60 gasoline. The tanks are tested out twice a year and no losses have been discovered which could be traced to leakage. The evaporation factor is very small, no actual figures on this point being available, however.

The tanks are vented with a screened vent carried 60 feet from the tank. The manhole is poured in the concrete roof, as is the thiefhole, which is equipped with an Oceco self-closing thiefhole cover.

Building 16 Tanks

In connection with the remodeled plant the Oklahoma Producing & Refining Corp. is building 16 800-barrel rundown tanks which will be of the underground concrete type. These are rectangular in shape and built in pairs to save on the wall space. The walls are 12 inches thick. The company found the rectangular shape an easier type of construction and more economical than the round tanks, due chiefly to the lesser amount of work necessary in constructing the forms.

Each tank is poured continuously when the work is once started. Two men follow the men pouring to puddle. Reinforcement is by a latticework of steel bars in the center of the wall, ⅜-inch steel bars being used, six inches apart both vertically and horizontally. The roofs are 4-inch slabs, built into the walls and reinforced. Manholes and vents are poured in the roof. Vents are the patented Oceco type.

Superintendent McBride states the use of concrete tanks buried for rundown tanks will cut his insurance rate on this particular portion of his refinery equipment from around a minimum of 80 cents for steel rundown tanks to 24 cents.

Three years ago Superintendent McBride started in to replace the roofs on

The sewer ditch which extends down the plant yard carries all piping and is covered with steel plates so that any section can be gotten at immediately. Smaller ditches feed from the tanks. The main ditch is equipped with steam jets every 30 feet for fire protection.

his steel tanks with concrete. He estimates he could build a concrete roof for about a third of the cost of steel roofs then, but part of this saving, he states, is due to the fact that he can get sand and gravel suitable for good concrete work at a very low cost. He put concrete roofs on three 50,000-gallon tanks and a number of small tanks, the roof, which is reinforced and four inches thick, being carried from the centerpole without additional support. No trouble has been experienced with any of these concrete-roofed steel tanks.

Enclosed Sewer Ditch

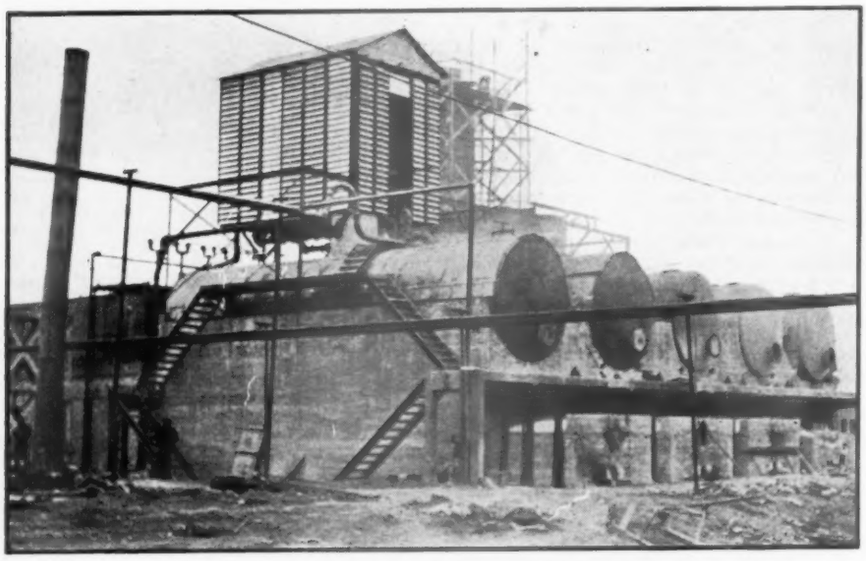
Another feature of the remodeled plant at Muskogee designed particularly to cut down the fire hazard is an enclosed sewer ditch which carries all the piping at the plant. Buried pipe lines are entirely eliminated, with their many opportunities for leaks and soggy ground around a plant, to say nothing of the loss of oil thereby. This sewer ditch starts off at the upper end of the refinery grounds with a concrete ditch 18 inches deep and two feet wide, and finishes up at the lower end at the traps with the same depth and a six-feet width.

The ditch is covered with movable steel plates, which allows access to any part of the ditch at any time. It is equipped with a steam jet about 30 feet, the steam jets being controlled by valves about 50 feet back from the ditch. The plant has not yet had a fire in the ditch to call the jets into actual use, but tests convince Superintendent McBride that, by turning on steam through jets above and below the point where fire might break out, a blaze could be extinguished almost immediately.

Oil Lines Kept Warm

Hot waste water runs through the ditch to keep the oil lines warm. The ditch discharges into two 14,000-gallon underground tanks so constructed as to act as separators, the water being run off and the oil being turned back to the refinery where it is rerun. Steel tankage around the plant is so arranged that, if a tank overflows, the oil feeds into the concrete ditch.

There are being constructed at the plant 10 600-barrel fire stills, 10 by 40 feet, run on the batch system. They are served by oil-fired Dutch ovens, eight by 10 feet by four feet high. The feature of the Dutch oven type of combustion chamber is that actual combustion takes place here and only the hot gases get under the still itself and the destructive effect of the extreme temperature caused by the flames on the still bottom is avoided. The stills are set in a very well designed concrete and brick still setting. Five of the stills are nearly finished and an additional five are to be constructed at once. As fast as individual stills are finished they are put into service and the old stills are being torn down.



Block of five new 600-barrel batch stills, showing brick and concrete setting. Housing on top of first still is to protect fractionating towers from sudden temperature changes. Stack at left is temporary, to furnish draft to first two stills which are in operation. The permanent stack, now building, shows back of the tower housing. The stills are insulated by the unit or segment method.

The new stills are protected with the unit type of insulation developed by the Abbott-Converse Co., Houston, described at length in the Nov. 9 issue of **National Petroleum News.** Here the insulating material is applied in sections, each section with its metal sheet covering; so that, when a leak develops at a seam in the still, the section or sections of the insulation affected can be removed and later replaced. This type of insulation reduces the fire hazard, inasmuch as it is impossible for the insulating material to become oil soaked. Its salvage value is high and its heat resisting efficiency higher than with ordinary methods of applying still insulation, it is claimed.

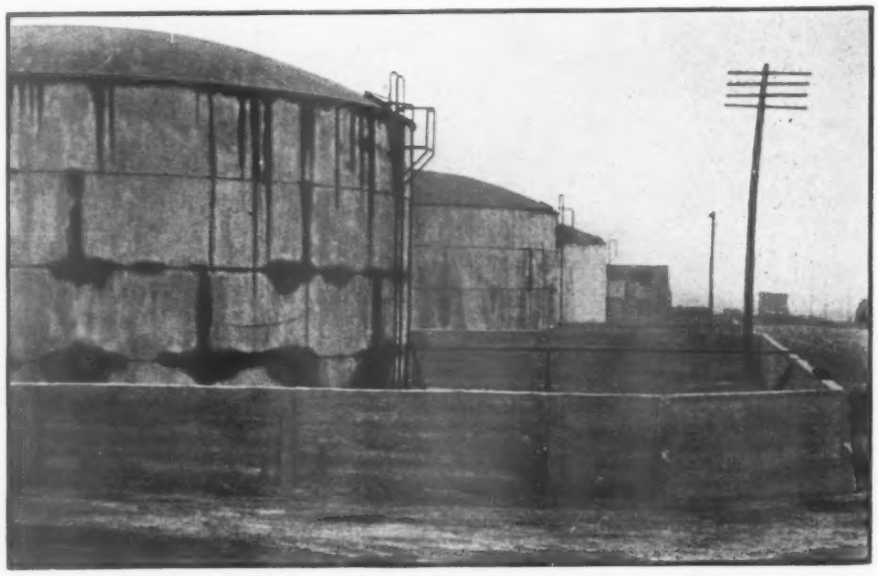
Fractionating Towers Housed

Another feature looking towards increased plant efficiency is a galvanized iron housing for the fractionating towers, to give the operator some degree of control over temperature conditions. The towers for two stills are in the one housing, which is built with sides of iron shutters so they can be tightly closed to keep air currents out or opened to give free air circulation. Mr. McBride states that considerably better results have been attained through the use of the housing for the towers, in that a fairly uniform temperature can be maintained for the towers, whereas, when they are in the open, they are subject to quick changes in temperature, as the wind changes or as the sun goes down or under other conditions.

Mr. McBride uses four towers for each still, the light vapors from the still passing consequently through the four towers, which are four feet in diameter and 15 feet high, and equipped with baffle plates. Through using additional towers for each still and thus providing for additional expansion space for the light oil vapors he has increased his gasoline yield materially. His experience with fractionating towers, all told, has been very satisfactory.

Automatic Tar Plug

The stills are equipped with a patented tar plug, which operates automatically, so that a fire in the tar line will close the plug and shut off the flow from the still. In most still fires it is the inability to shut off the flow of hot oil from the still, which thus feeds the fire, which causes most of the trouble. This patented plug is in the back of the still itself, instead of coming out on the top of the still. A compound lever on the outside of the still works a shaft coming into the still. A fusible link controls the lever arrangement which is weighted so that, when the fusible link is broken, the resulting action closes the hole in the bottom of the still



Concrete dikes around steel tanks in an old part of the plant.

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3rd Day—Define rules to protect the jobber against refinery sales to carload consumers at same price charged legitimate jobbers.

4th Day—Consider plans for advertising the independent oil business nationally along lines similar to Fruit Growers Union and, "Say it with flowers" campaign and others.

-Lew Merrell-B.C.S

The Vilter Mfg. Co.
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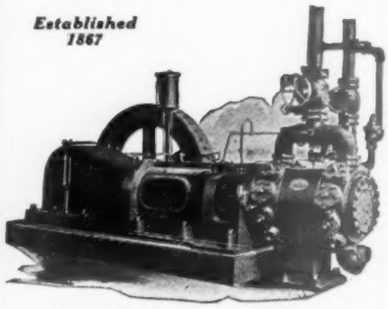

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through which tar flows. The tar line from the still is unprotected for only three feet and then goes into water as a safety provision and also to cool the oil. Mr. McBride with another man worked out the tar plug.

Another fire prevention feature is the elimination of the steel skirt on the 1,000-barrel agitator for treating light oils. This agitator is electric welded. In place of the steel skirt, which warps and buckles in case of fire, allowing the agitator tank to turn over, the agitator in this case rests on brick and concrete supports.

The agitator is also protected with an automatic Oceco sprinkler controlled by a fusible link. If the agitator should flash and catch fire, the fusible link, melting at 200 degrees, would allow a tetrachloride solution from a 40-gallon container to be dumped into the agitator contents.

Two 300-barrel lubricating oil agitators are housed in an adjoining building, which is of reinforced concrete and brick construction throughout. The filter house contains 12 14-ton filters handled by belt conveyors in such a manner that the movement of the clay is continuous from the time it is dumped from a filter, through the burner and the cooler and into another filter. The plant can burn 30 tons of clay in 24 hours. Mr. McBride says: The conveyor system was installed by the Dodge Engineering Co., Milwaukee. The oil is handled by gravity through the filter plant, being pumped first to tanks on the top floor.

Power House is Modern

The power house is a modern structure, which will fit very well into the general plant arrangement when the present remodeling work is completed. It contains four 323 horsepower Springfield watertube boilers, which have been installed for three years. It is oil fired throughout, 24-26 fuel oil produced at the plant being used.

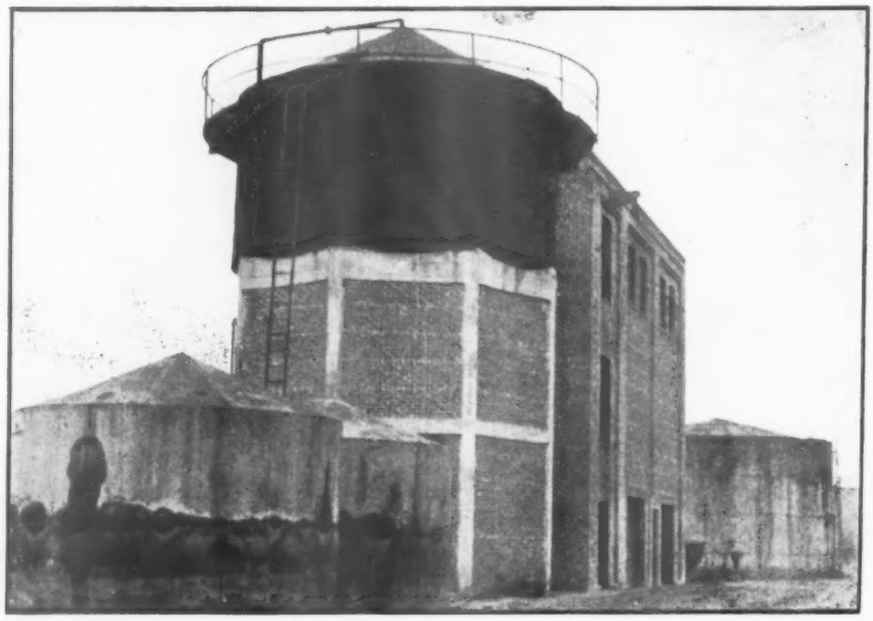
Another feature at the plant which is new to most plants is the use of a 5,000-barrel electric welded steel tank which has been in service for two years. It has been used for storing crude and there are today no signs of oil stain on the paint. The tank is of ¼-inch metal and was installed by the Electric Welding Co. of America. The cost is given as about the same as for a riveted tank. The company has since built two 500-barrel tanks for lub oil service, which are giving satisfactory usage. To take down the tanks they would be cut down by burning along the welds.

Mr. McBride has developed a good working organization at the plant and many suggestions he receives as to improvements come from employes. Twice a month regularly, for the hour following pay day, a meeting is held of all employes, at which things generally are gone over and any employe has the right to speak his mind regarding anything connected with the company and his relation to it.

When the remodeling job is complete, the plant will run about 75,000 barrels a month of Muskogee and Boynton crude. It will feature lubricating oils from Muskogee crude. This plant has quite a history, being started in 1904, as the Muskogee Oil Refining Co. It is now owned by the Pure Oil Co. interests but is operated separately.

Forms Welding Company

OKMULGEE, OKLA., March 4.— J. Harry McCready, of Okmulgee, and associates are organizing the Okmulgee Welding Co. which will be incorporated with $25,000 capital to manufacture and market Conservo gas burners. This burner was designed and patented by Mr. McCready and a number of them have been sold during the last year through the Atlas Supply Co. The burner is designed for use with oil field boilers on low pressure gas. The burner was recently tested by experts of the Bureau of Mines, and, according to Mr. McCreary, the burner proved to be satisfactory.



The 1000-barrel light oil agitator has a base of brick and concrete in place of the usual steel skirt as a fire prevention measure. At the right behind the agitator is the filter house and the housing for the two 300-barrel lub oil agitators. Steel tankage at the left is part of the old plant.

Engineer Starts Fire Prevention Study For Petroleum Institute

Staff Special

NEW YORK, March 9

THE American Petroleum Institute took its first steps toward building an engineering department by employing, March 1, Harmon F. Fisher, former engineer in the U. S. Bureau of Mines, to be an assistant to Dr. Van H. Manning in charge of the technologic division of the Institute's work. When Dr. Manning first went to the institute about a year ago from the directorship of the Bureau of Mines, it was with the idea of organizing at once a large engineering and research division, but many things prevented. However, the other day Secretary R. L. Welch approved the employment of Mr. Fisher and designated that he start in particularly on fire protection engineering.

Mr. Fisher was in charge of the helium plant of the Bureau of Mines at Petrolia, Texas. He was graduated from the University of California in 1909, in mechanical and electrical engineering. He worked as a mechanical and electrical engineer four years with the Westinghouse people and then became assistant professor of electrical engineering at the University of California. He is not an oil man, but his engineering experience has been so practical that Dr. Manning felt he was a good selection to assist on some of the engineering work of the Institute, especially as he would not be of any particular school of oil engineering thought.

Studies Fire Protection

Mr. Fisher has started to study and digest the regulations of fire protection engineering, not only ot the National Fire Protection Association, but of all the states. He'll make a fair study of that subject within the next 30 to 60 days and it may be possible to hold a national meeting under the auspices of the institute to get the oil industry well organized to function effectively on this subject. Announcement of the meeting will be made later by Dr. Manning, for the Institute.

Dr. Manning called a meeting of oil company engineers and steel tank builders at the institute offices at New York Feb. 23 to consider the regulations of the N. F. P. A. on inflammable liquid storage and particularly on all tank specifications. He sent a questionnaire to all tank companies as to the type of tanks they are building. He had this material digested and summarized by Garrett B. James, an engineer now with the Foamite Firefoam Co. of New York, but, who, when with the Bureau of Mines some years ago, conducted one of the first oil tank investigations.

Those who attended the New York meeting were:

Dr. Van H. Manning, American Petroleum Institute; E. W. Hall, Standard Oil Co. of New York; John M. Maris, Atlantic Refining Co., Philadelphia; Paul C. Rodgers, Phoenix Iron Works Co., New York; Ralph Riddle, Riter Conley Co., (McClintic Marshall Prod. Co.); T. G. Toomey, New England Oil Refining Co., Fall River, Mass.; D. J. C. Meveringh, New Orleans Refining Co., New York; F. D. Gatchell. The Texas Co., New York; Garrett B. James, Foamite Firefoam Co. New York; C. C. Ramsdell, president, Gilbert & Barker Co., Springfield, Mass.; J. W. Connolly, Mexican Petroleum Corp., New York; L. R. Holmes, The Texas Co., New York; James T. B. Bowles, Tide Water Oil Co., New York; H. L. Shoemaker, Standard Oil Co., of N. J., New York; H. E. Moore, M. H. Treadwell Co., 140 Cedar street, New York; George P. Bard, M. H. Treadwell Co., 140 Cedar street, New York; F. H. Munkelt, Petroleum Iron Works Co., 25 W. 43rd street, New York; R. S. Colwell, S. F. Bowser & Co.,

(Continued on page 43)

Rate Hearing Shows What United Effort Can Do

FOR the first time in the history of the oil industry, the whole industry united in presenting a comprehensive view of oil and freight rates, and all means of transportation at the hearing now going on before the Interstate Commerce Commission, on what, if any, effect freight rates have on the cost of things in general. That presentation was made under the auspices of the American Petroleum Institute a week ago. (See page 17 to 20 inclusive, March 1 issue, **National Petroleum News).** If the Institute does nothing else the rest of this year it will have well earned its existence.

Bringing all the conflicting interests of the industry together was a big task, one that would have been impossible without such a central organization as the Institute. When the effort was started some months ago it looked impossible. Many said the story of the whole industry and its relationship to freight rates could not be harmonized in one case. And at various times it looked as if they were right. But due to the broad view of Secretary Welch of the Institute and some of the other leaders of the industry, all the factions of Standard and Independent alike, were shown that there was a story to be told the Commission about how the whole industry is hampered by high rates and because of them is seeking other means of transportation and reorganizing their methods of gathering crude and replacing their refineries so as to use the rails as little as possible.

Under the examination by Fayette B. Dow, who handled the case for the Institute, Secretary Welch and other witnesses graphically presented the big story of the whole industry, of the restrictive effect of high rates, of the industry's struggle against them, of the industry's financial losses the past year—testimony of a broad character which could be presented only from a source neutral to all, and yet testimony which was vital to the Commission's getting the right perspective on the whole, and giving the proper background against which to judge the testimony of those representing different territories and units.

Each territory and each collection of units had its day in court. None was submerged by the general story. Individual identities were maintained before the commission. They lost none of their previous strength with the Commission, if one is to judge from the character of the presentaton of the case, but, in fact, we feel it can safely be said each gained from the whole story being presented at one time. It was a complete picture, rather than a collection of miniatures.

Bear in mind that in this hearing—on all basic commodities—the Commisson is not going into details as to this or that particular rate on any one commodity but is trying to find out whether rates as a whole are affecting adversely the cost of the basic materials of our life and if so how much. At this hearing the Commisson refuses to consider individual rates. If it dd, it could never hope to get to the end. The oil industry's only hope for even being heard was to give a general story. Later by individual complaints each unit, or group of units, can bring up its own problems, and this will be done.

It was a most important and highly commendable handling of a difficult case, one that brings great credit upon all those who co-operated. It shows what can be done in really united effort and it is to be hoped that such excellent effort can be put forth in similar fashion on all the other problems of the whole industry that are pressing for solution.

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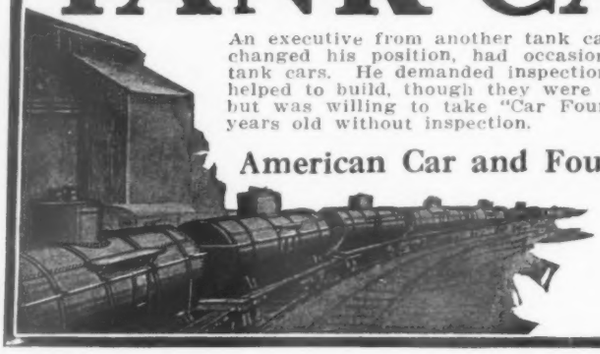
TANK CARS



An executive from another tank car company, who had changed his position, had occasion to buy some used tank cars. He demanded inspection of the cars he had helped to build, though they were only six months old, but was willing to take "Car Foundry" tank cars two years old without inspection.

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The opinion of the majority of those at the meeting and of the 46 tank builders who replied to the questionnaire was to a full present specification in the N. F. P. A. regulations as the minimum weights of metal for tanks. It was pointed out that this does not mean that tanks for practical commercial use should not be heavier, but it was felt that tanks as light as those specified could properly be built and take care of all the necessary fire hazards about all storage.

The report of the committee was submitted at a meeting of the inflammable liquids committee of the N. F. P. A. at New York, Feb. 28, attended on behalf of the oil industry by Dr. Manning of the Institute, Mr. Toomey of the New England Oil Refining Co., F. W. Staley of The Texas Co., and W. C. Platt, **National Petroleum News,** the oil members of the committee. The report was adopted with some minor corrections, which are taken care of in the reprint of it, which follows in this article.

The most important change made by the oil committee was to abolish the detailed specifications for large tanks above ground and substitute therefor the formula used by all tank builders with a factor of safety of 2.5. Some of the insurance representatives on the committee urged a larger factor of safety, but a majority finally approved the one reported by the oil interests. The oil committee report also abolished the word "basic" as describing the quality of steel to be used in tanks, the point being raised that tank steel was not confined to that particular kind nor was it necessary to confine it to that.

In the underground storage tank, inside city limits, a small size was put in from 1 to 285 gallons with a minimum thickness of 16 U. S. gauge and the size of the 4001 to 10,500 gallon tanks was raised from 4001 to 12,000 gallon tanks for No. 3 gauge material and for above ground tanks a new classification of 561 to 1100 gallons No. 12 gauge material was provided. The report of the oil conference as adopted by the inflammable liquids committee follows:

Section 50.—Eliminate word "basic" in the fourth line of first paragraph. (This applies to the kind of steel used. The description was considered superfluous). Add to last sentence of the first paragraph the words "within city limits."

Table 2

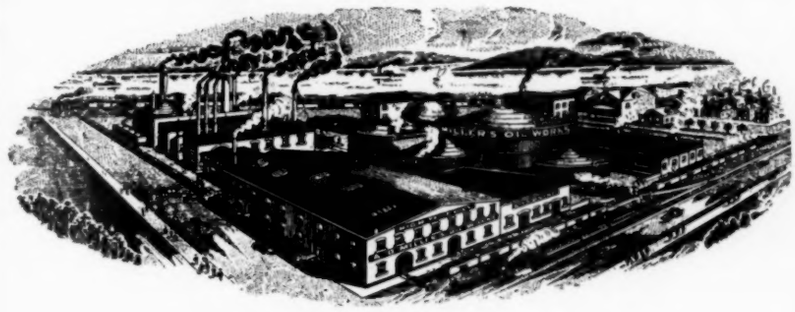
Underground tanks inside the limits prescribed in Section 45, or within 10 feet of a building when outside such limits.

Capacity (Gallons)	Minimum Thickness of Material U.S.G.	In.
1 to 285	16	1/16
286 to 560	14	5/64
561 to 1100	12	7/64
1101 to 4000	7	3/16
4001 to 12,000	3	1/4
12,001 to 20,000	0	5/16
20,001 to 30,000	000	3/8

Table 3

Capacity (Gallons)	Minimum Thickness of Material U.S.G.	In.
1 to 30	18	1/20
31 to 350	16	1/16
351 to 1100	14	5/64
1101 to 4000	7	3/16
4001 to 12000	3	1/4
12,001 to 20000	0	5/16
20,001 to 30,000	000	3/8

(Continued on page 45)



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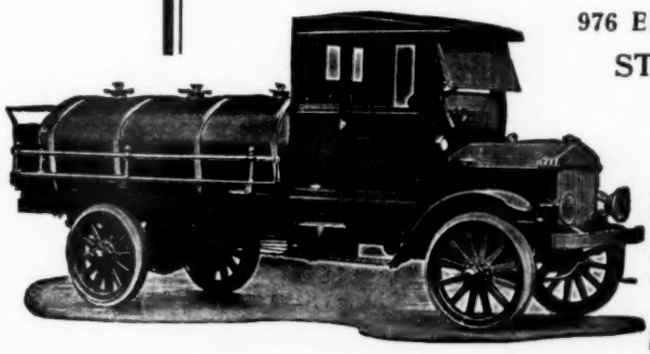

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Table 4

Above Ground Tanks

(a) Horizontal or vertical tanks not over 1,100 gallons capacity.

Capacity (Gallons)	Minimum Thickness of Material	
	U.S.G.	In.
1 to 30	18	1/20
31 to 350	16	1/16
351 to 560	14	5/64
561 to 1100	12	7/64

(b) Horizontal Tanks over 1100 gallons capacity.

Tanks of this class shall be of such material and so constructed as to have a factor of safety of at least 2.5, with hydrostatic head figured with water. The minimum thickness of shell or head is to be 3/16 inch (7 U. S. G.)

The thickness of shell plates to be figured using the following formula:

$$t = \frac{P \times r \times F}{T \times E}$$

where
t equals
P " working pressure in pounds
r " radius of shell (inside) in in.
F " factor of safety (taken as 2.5).
T " tensile strength of plate in pounds per square inch.
E " efficiency of longitudinal riveted joints.

(c) Vertical tanks over 1100 gallons capacity.

Tanks of this class shall be of such material and so constructed as to have a factor of safety of at least 2.5. The minimum thickness of bottom or shell to be 3/16-inch (7 U. S. G.). Minimum thickness of roof to be 1/8 inch (11 U. S. G.).

The thickness of plates to be figured using the following formula:

$$t = \frac{2.604 \times H \times D \times F \times S}{T \times E}$$

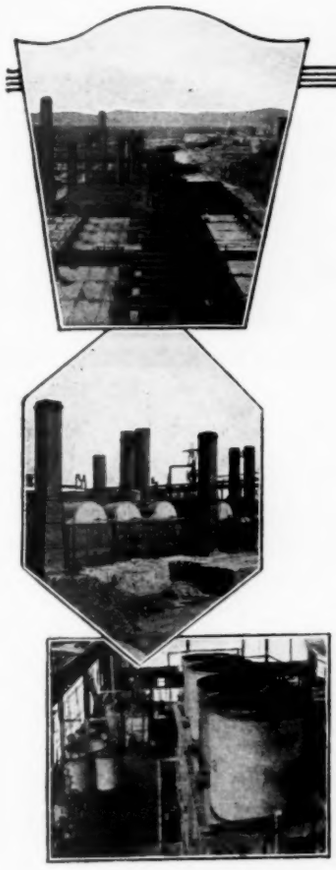
where
t equals thickness of plate in inches.
H " height of tank in feet above the bottom of the ring under consideration.
D " diameter of tank in feet.
F " factor of safety.
S " specific gravity of liquid stored taking water equal to 1.
T" tensile strength of plate in lbs. per sq. in.
E " efficiency of vertical riveted joint in ring under consideration.

Note:—Tensile strength of steel of class A is to be taken as 55,000 pounds per square inch, while shearing strength of rivets is to be taken as 40,000 pounds per square inch.

Section 51.—With the approval of the fire commissioner, city engineer, or other authority properly qualified technically to pass upon the matter, tanks of other suitable material, may be used if after the necessary handling incident to installation, they conform to the value given above as to strength, rigidity, durability and tightness. For liquids of 35 degrees Baume or below, tanks may be constructed of concrete from plans and specifications in accordance with requirements of National Board of Fire Underwriters and National Fire Protection Association.

Section 52.—Omit word "soldered" from second line and add word "practically" at end of line five. (This forbids soldered joints on tanks).

Section 53.—Sixth line, strike out "chief of the fire department" and substitute "fire commissioner, city engineer or other authority properly qualified technically to pass upon the matter."



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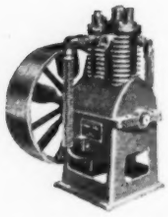

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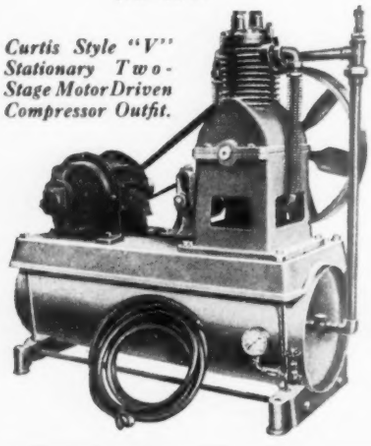

Curtis Two-Stage Compressors are especially suited for Filling Station service. They provide full advantages of two stage compression because they are the only ones fitted with copper intercooler—the most satisfactory method of cooling the air passing from the low to the high pressure cylinder. All other two-stage garage compressors use steel pipe with cast iron flanges. Copper absorbs and radiates heat 125% faster than cast iron and 100% faster than steel pipe.

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United Gets Leases To Naval Reserves

By Special Correspondent

LOS ANGELES, Mar. 9.—Closing eight years of litigation, initiated after the Taft withdrawal act, the government has finally granted to the United Oil Co. of California leases to 200 acres of oil land in 20-31-23, 80 acres in 24-31-32, and 80 acres in 28-31-23, all in Kern county; Secs. 20 and 28 are included in Naval Petroleum Reserve No. 1 and Sec. 24 is outside.

The foregoing good news was brought back to Los Angeles by C. F. Whittier, president of the company, from Washington, and he also brought with him the leases duly executed by the Secretary of the Interior.

These settlements are most satisfactory to the directors of the company. The acquisition of these leases gives the company possession of valuable oil lands of which it has long been deprived. The lands are regarded as proven, and the terms of the leases are said to be just and fair to the company. Development work is in progress on Sec. 28, and the company expects to have one, and probably two wells on production on this territory within the next few weeks. Drilling operations will be commenced on Sec. 20 within the next 90 days. This property is regarded by geologists and oil men as being an extremely valuable piece of oil land; that it has great value as a gas-producing property has already been proven.

The daily production from the 20 acres of land owned by the company in fee in 6-32-23, is now approximately 350 barrels, and monthly royalties paid to the company from the Mocal and Pyramid leases amount to about $2000. The net daily production of the company from the Whittier and Richfield wells amounts to approximately 100 barrels, and the wells at Signal Hill are producing 600 barrels a day. The company also owns in fee 100 acres in the Kern River field upon which no development has as yet been done.

WASHINGTON, March 10.—An investigation to be conducted by the Bureau of Mines at Bartlesville, Okla., relates to methods of treating petroleum products. Most of the progressive refiners in the country realize that the methods of treating petroleum distillates have for the most part been handed down from one generation to another and that in many cases they are not satisfactory. They are of the opinion that work should be done to determine proper methods for treating distillates from the various types of crude for at present a method for treating products from one type of crude may not be satisfactory for treating products of a certain other type. Also the losses in treating are comparatively high, particularly in the case of the small refiners who make use of open top agitators and as a result lose large amounts of the lighter fractions through evaporation.

The problem of treating petroleum distillates has been assigned to D. B. Dow, who has had some previous experience along this line, having developed a method for treating casinghead gasoline that is now being used by several plants in the mid-continent field.

PRODUCTION SECTION

Mid-Continent Bureau
608 Cosden Building
TULSA

Eastern Bureau
Eighth Floor Caxton Building
CLEVELAND

Southwestern Bureau
614 Beatty Building
HOUSTON

Correspondents in Parkersburg, W. Va.—Pittsburgh, Pa.—Lexington, Ky.—Shreveport, La.—Casper, Wyo. Los Angeles, Calif.—Washington, D. C.—Tampico, Mexico

Purchasers' Attitude Encouraging

IN SPITE of the week to week increase in production, there is an increase in the feeling of stability that the Mid-Continent prices will carry through to the season of better demand for petroleum products.

This feeling is enhanced, naturally, by the attitude of the big purchasing agencies. They are not only taking all oil offered but are in most fields actively soliciting connections. For example, eight major purchasers are competing for the oil in the Lyons pool, now one of the most active fields in Oklahoma.

Build Storage to Handle Surplus

This calls for additional pipe line capacity, of course, and new storage construction, but there is no disposition to evade this. One major company has built in recent weeks and has under construction at this time, better than two million barrels of new steel storage and is leasing other tanks wherever they may be had.

Where the production in the Mid-Continent will be raised to is conjectural but it now appears as though it will keep on climbing. A gain of 10,000 barrels was registered the past week in Oklahoma. A good rain last week gives plenty of water for many operations that were shut down and the new production can be expected to show more increases.

Plenty of Flush Production in Sight

It is argued by some that much of this daily average output is flush production, but granting that, there is every indication that a high rate of flush production will prevail for several months. Oklahoma pools, like the Lyons and Burbank, are by no means drilled up and operations continue to add new territory in the southwest Creek county, northern Okfuskee county and western Okmulgee county areas. The Lyons pool now is making 50,000 barrels daily.

In North Louisiana much the same situation prevails. Haynesville was credited last week with a daily average of 93,000 barrels, an increase of 10,000 over the previous week and development there is just well started. Thirteen new wells last week made 23,250 barrels initial.

Mexia Averages Lower Past Week

Mexia's daily average registered a decrease the past week, of about 12,000 barrels. The field mark over the week was 140,000 barrels. This, however, is hardly significant, as a number of completions simultaneously will run the daily average up again.

Wildcatting in territory adjacent to Mexia has not shown anything of importance and the general situation will hardly be affected by anything from northeast Texas in the near future.

Increase Runs in Wyoming

Standard refineries in Casper on March 8 began taking 53,000 barrels daily from the Salt Creek field, an increase of 4,000 barrels. This is due to the increased rate at which Standard is moving export gasoline out of Casper.

Another pipe line company was incorporated in Wyoming last week, its object not announced. It is headed by men who have been successful operators in the Rocky Mountain territory and is believed to contemplate the building of an outlet from Salt Creek.

Late Field News

HOUSTON, March 13.—Gulf Coast Oil Corp., subsidiary of Atlantic Refining Co., has completed an 1800-barrel maximum production well at the 3170-foot level in the Cow Bayou pool of Orange county. It came in from broken formation on the tract adjoining on south that where the Edgerly Petroleum Co., and other operators completed wells in the 3200-foot pay several months ago.

Bellevue Well Good For 1,500 Initial

By Special Correspondent.

SHREVEPORT, March 11.—The Bellevue district of Bossier parish, being the shallow sand area, came into the limelight again Friday, when the Standard Oil Co. completed its Bell No. 1 in the northeastern corner of 16-19-11, at 410 feet, with initial yield estimated at 1,500 barrels. The top of the pay was encountered at 400 feet.

This completion came in too late to be formally listed in the past week's competitions, given in another column of this issue. Only three wells were formally listed for the week in Bossier parish. Two of them were in the Bellevue shallow sand district, namely: Chandler et. al.'s Bliss & Weathersby No. 2 in 10-19-11 at 358 feet, initial yield 15 barrels; and the Standard's Smith No. 1, abandoned at 710 feet in 23-19-11. The other Bossier completion was in 15-20-13, abandoned at 2,230 feet, being Thigpen & Herold No. 1 of the McLannahan interests, which test had been watched with considerable interest.

With the completion of the Standard's pipe line, the Bellevue district is expected to receive additional attention. Work will be finished on this line at early date.

FARMINGTON, N. M., March 10.—The Glade Oil & Gas Syndicate has reported a good showing of high grade oil at 800 feet in its test adjoining the No. 2 well of the Mesa Verde Oil Co. in the Farmington district of San Juan county. The Glade company has its headquarters here.

The Midwest Exploration Co. is completing its third gasser in this same district. The Aztec Oil Co. is setting casing to shut off water in order to test a gas sand in its No. 2 test near Aztec, N. M.

Central Mineral Belt Wells Average 25.5 Barrels In January

Staff Special

FORT WORTH, March 9. PRODUCTION of wells from the Bend Series formations in the Central Mineral Belt and from the sand wells in horizons found at shallower levels in the same territory averaged 25.5 barrels in the month ended Feb. 1. These figures, only now available, may be considered official.

In the details involved they give an idea of the present status of what has been commonly known as the general Ranger territory.

Because of the fact that the industry generally knows little of the actual production in Shackelford, Callahan and Palo Pinto counties (where the shallow wells are of nominal value only) tables showing the number of producing wells by companies and the daily average production are sub-joined. These divisions are included in the totals for the Central Mineral Belt, also accompanying.

Young County oil, principal production from Palo Pinto county and the Sipe Springs shallow production in Comanche county, all come from sand levels. Callahan production is from the sand, but Shackelford produces both from sand and the Bend Series limes. Desdemona production, that from Eastland county and also from Stephens county come generally from lime sources.

Detailed production on minor producing areas is distributed as follows:

PALO PINTO COUNTY

Company-Farm	Producing Wells	Daily Ave. Prod.
Texas Pacific Coal & Oil Co.		
Fee	102	70
Costello Brothers		
Costello	1	20
Empire Gas & Fuel Co.		
R. A. Wheeler	1	12
T. C. Gilbert	1	40
Hart Oil Corp.		
Hart	2	474
Lang & Collett		
Robinson	2	14
Lone Star Oil & Gas Co.		
Robinson	2	13
Owens & Burkett		
R. A. Wheeler	3	106
Strawn Petroleum Co.		
Stewart	9	256
Texas Pacific Coal & Oil Co.		
Stewart & Sons	54	281
Texhoma Oil & Refining Co.	2	13
Totals	**179**	**1299**

Daily average per well 7 barrels.

SHACKELFORD COUNTY

Ibex Oil Co.		
Poindexter	3	73
Magnolia Petroleum Co.		
J. L. Terry	4	6
Hogan et al.		
Compton	0	0
The Texas Co.		
Wild "B"	1	8
S. & W. G. Webb	2	6
F. C. Gillespie	2	25
Webb Roach	1	40
Claud Tarrant	1	70
J. H. Arnold	1	2
Tarrant Dev. Co.	1	2
Powell et al.		
J. L. Terry	4	6
Totals	**20**	**238**

Daily per well average 11 barrels.

CALLAHAN COUNTY

Homer Peoples		
Hughes	2	1
Neauman	11	32
Baird Petroleum Co.		
Hughes	4	5
Ungrin & Simon		
Neauman	4	10
F. L. Dristell		
Hughes	1	5
Totals	**22**	**53**

Daily average production 2 3/7 barrels.

HOUSTON, March 13.—Daily average production in Texas fields over the week ending March 11 was as follows:

	Mar. 11	Mar. 4
Mexia	140,000	156,000
Somerset	1,550	1,550
Coastal Louisiana	4,400	4,685
Coastal Texas	98,780	94,680
Wichita Falls Dist.	51,500	51,965
Ranger, lime	62,800	64,825
Ranger, sand inc. Young county	12,250	11,975
Totals	371,280	385,680

PRODUCTIVE HISTORY AND PRESENT STATUS CENTRAL MINERAL BELT

	Total Wells Drilled	Dry Holes and Wells Abandoned	Wells Producing	Avg. Per Well Prod. Feb. 1, 1922	Wells Drilling
Stephens County	2176	869	1307	36.	141
Eastland County	1639	1080	559	21.73	37
Comanche County					
Desdemona	....	....	324	11.	....
Sipe Springs	....	....	240	1.5	....
Young County					
South Bend	....	....	127	43.25	47
Bunger	....	....	35	94.	51
Palo Pinto County	....	....	179	7.	....
Shackelford Co	....	....	20	11.	....
Callahan County	....	....	22	2.43	....
	3815*	1949*	2813	25.5	256

*Incomplete, account missing data.

PRODUCTION BY COMPANIES IN CENTRAL MINERAL BELT

Company	Total Wells Producing	Daily Avg. Production Feb. 1, 1922	Per Well Avg., Production
Gulf Production Co.	126	4095	33.
Humble Oil & Refining Co.	98	3972	40.5
Magnolia Petroleum Co.	235	3130	13.
Mid-Kansas Oil & Gas Co.	99	4235	42.78
Prairie Oil & Gas Co.	135	3715	57.
Sinclair Oil & Gas Co.	48	1852	43.
States Oil Corporation	64	1985	31.
The Sun Company	79	868	11.
The Texas Co.	169	5143	30.5
Texas Pacific Coal & Oil Co.	146	4238	23.
Miscellaneous	1614	40,594	25.
TOTALS	2813	73,827	25.5

14 Wildcat Tests In Kaufman County

Staff Special

MEXIA, TEXAS, March 9.—Fourteen "wildcat" tests now are under way in Kaufman county, northeast of Navarro, which in turn is northeast of the Mexia pool in Limestone county. The deepest of these, Panhandle Oil & Refining Co.'s Grinnan had the chalk at 2412-2718 feet, this formation being topped at a level approximately 100 feet deeper than it is ordinarily found in the proven field at Mexia.

Status of Kaufman county "wildcats" now is as follows:

Benedum & Trees No. 1 Jockville, six miles north of town of Kemp, drilling at 1300 feet.

Couch & Winfrey, No. 1 Gibbard, drilling at 700 feet.

Hedrick Oil Corp., No. 1 Ward, drilling at 1640 feet.

Humphreys-Mexia Co., No. 1 Ables, derrick.

Humphreys-Mexia Co., No. 1 Darrows, shut down for drill pipe at 892 feet.

Humphreys-Mexia Co., No. 1 Bishop, drilling at 1800 feet.

Humphreys-Mexia Co., No. 1 Clarida, drilling at 152 feet.

Magnolia Petroleum Co., No. 1 Cernash, drilling at 1745 feet.

Nova Scotia Co., No. 1 M. Pyle, drilling at 2250 feet.

"Trapshooter" Reilly No. 1 Porter, location.

Texas Pacific Coal & Oil Co., No. 1 Carlisle, drilling at 2400 feet; top of chalk 2307 feet; No. 1 Watkins, drilling at 2700 feet.

William Tucker et al No. 1 Bosbear, drilling at 1200 feet.

CORTEZ, COLO., March 10.—Completion of the test of the Midwest Oil Co. on the McElmo structure, 14 miles west of here, in Montezuma county, is expected soon. Drilling has been resumed after a shut down of about a month with casing cemented at 3,140 feet. The hole is down about 3,600 feet.

Magnolia Crude Runs Decrease In February

DALLAS, March 10.—Magnolia Petroleum Co., pipeline department, announces from Dallas headquarters the following crude oil runs for February, which are shown in comparison with the January runs, as follows:—

	January	February
Mexia Producing Dept.	281,281.13	209,162.59
Mexia Pipe Line Dept.	222,267.90	171,444.76
Hewitt	53,352.86	44,080.26
Thrall	3,531.89	9,716.65
Healdton	209,037.50	180,213.62
Electra	223,517.26	188,088.01
Henrietta	4,360.07	3 635.34
Cushing	98,754.29	95,975.83
Yale	70,754.27	74,782.46
Cement	53,480.56	46,051.13
Duncan	213,657.94	191,392.86
Heavy Corsicana	10,628.34	9,984.56
Light Corsicana	8,284.81	6,586.94
El Dorado Kansas	44,722.90	42,726.24
Comanche (Desdemona)	49,782.03	47,085.61
Olden (Ranger)	14,505.41	16,382.27
Coleman	352.16	409.20
Stephens (Breckenridge)	96,639.10	75,073.36
Walters, Beaver Creek	32,480.80	30,899.45
Union County, Ark.	14,604.61	10,639.78
TOTAL	1,706,035.83	1,463,350.92

Rainfall Expected To Increase Drilling In Mid-Continent Areas

Staff Special

TULSA, March 11

OPTIMISM is the keynote of the situation in the Mid-Continent district this week. Better times are just ahead, and the coming summer will be a great one in the annals of the oil industry, according to what might be called the concensus of opinion, both among producers and supply men.

As time goes on and the price of oil remains the same in the face of continued increases in production, the feeling becomes more and more apparent on all sides that every effort is being made to maintain prices in view of the expected increase in demand. It is increasingly evident that the large buying companies are desirous of getting all the high-grade Oklahoma crude they can handle, as evidenced by the alacrity they display in connecting up new wells, even wildcats far removed from present pipeline facilities, and by the fact that, although some of them find themselves pressed for capacity to handle all the oil offered, none of them apparently desire to relinquish connections they now have and are quite willing to provide extra facilities for handling whenever necessary. As long, therefore, as the pipe line companies very evidently want Oklahoma crude, although it is being offered to them in constantly increasing quantities, a reason may be seen for the optimistic attitude of most of the producers and an explanation for their feeilng that the price of oil is in no danger of a cut.

A heavy rain which fell during the week augmented the supply of water already replenished by the snow of the week before, and a sufficient quantity is now on hand for all operations. This will undoubtedly result in greatly increased activity in drilling in all parts of the state, although it is of course too early for such increase to be reflected in reports from the various fields. It is probable that one-third of the wells in the Mid-Continent field had been shut down for lack of water, this including, of course, many wells which had been rigged up and were all ready to start and were only waiting for water to commence operations, and it is safe to say that most of them will now resume drilling in the immediate future. Oklahoma is undoubtedly in for a great drilling campaign during the coming summer. Supply houses already report increasing inquiries and orders, one firm maintaining Tulsa headquarters stating it did $26,000 more business during February than during January, in spite of the short month.

Many oil men from Tulsa have been absent from their desks during the past week, due to their attendance at the meeting of the Western Petroleum Refiners' Association, and this coupled with the exodus of the geologists to Oklahoma City for their annual conclave has given the town a more or less deserted air.

The Lyons pool, now the leading producer of Oklahoma, is making better than 50,000 barrels a day, and as usual came to the front with several good completions during the week. This field's rapidly increasing production is being taken care of by eight major pipeline companies, the latest arrival in the pool being the Sinclair Crude Oil Purchasing Co., which is also building a line down to Sec. 2-10-9, to handle the production of the wildcat of the Mid-West & Gulf Oil Corp.

Production from this field has been increasing so rapidly that it has at times outstripped pipe line connections, so that additional facilities have been needed. The oil is of high gravity, averaging around 39 degrees Be., but so far no premiums have been paid on it. Several of the pipe line companies who have been handling this production are now engaged in enlarging their facilities for handling it, among them being the Cosden Pipe Line Co., which is now replacing with a six-inch line its present four-inch from Beggs to the Deaner and Lyons pools. The Prairie also is building an eight-inch line from Bristow to this district.

In this field, the Independent Oil & Gas Co.'s No. 9 Holmes is flowing 2,200 barrels at four feet in the sand found at 2,682 feet. This well is located in the northwest corner of the SE¼ of the SW¾ of 13-11-11. The same com-

MID-CONTINENTAL DAILY AVERAGE PRODUCTION

	March 11	March 4
Cushing and Shamrock	25,000	24,000
Healdton	21,000	21,000
Hewitt	31,500	32,000
Burbank	47,000	45,000
Oklahoma, general	226,000	218,000
Kansas	83,500	84,000
Total	434,000	424,000
Increase	10,000	

Completions in Oklahoma and Kansas Week Ending March 11, 1922

Osage County

Company.	Well No.	Location	Depth	Initial Prod.	Shot
Sand Springs Home	2	SE 21-20-11		2M	.....
Lewis Oil Co.	8	NW NW 1-21-11	2262-2267	70	.....
Twin States	10	NE NW 32-22-10	1787-1802	80	.....
Winona Oil	1	NE SW 16-23-8	1705-1737	25	90
J. E. McKinney	5	SE NW 25-23-10	1738-1774	50	120
Finance Oil	16	NW 26-23-11	1863-1892	20	.....
Douglas Oil	1	NE 32-24-8	2283-2309	85	.....
Douglas Oil	2	SE NE 32-24-8	724-735	15	50
Douglas Oil	14	SW NW 33-24-8	707-718½	25	110
Midland Oil	1	SW SE 17-24-8	1786-1810	10	.....
Marland	2	NW NW 26-24-9	2097-2132	100	140
Creekmore & Morrison	2	NE NW 1-24-11	1627-1714	10	180
J. E. McKinney	1	SW NE 13-25-11	764-1806	20	160
J. E. McKinney	2		1678-1740	20	160
		Burbank—Osage County			
Gypsy	7	NE NW 6-26-6	2850-2896	1000	100
Devonian	7	NW SW 5-26-6	2831-2883	750	80
Roxana	3	NW SW 6-26-6	2891-2961	240	35
Carter	3	NE NE 6-26-6	2760-2310	1140	100
Carter	5	SE SE 9-26-6	2865-2893	265	80
Tidal-Osage	12	NE NE 2-26-7	931-953	10M	.....
Phillips-Skelly	3	SE SE 25-27-5	2946-3008	650	150
Roxana	7	NE NE 36-27-5	2950-3004	930	.....
Roxana	8	SW SE 36-27-5	2861-2951	800	90
Tidal-Osage	5	SW SW 30-27-5	2902-2968	650	130
Gypsy	7	NE NE 31-27-6	2907-2971	1200	100
Gypsy	8	NW NE 31-27-6	2912-2972	2000	120
Gypsy	2	SW SW 32-27-6	2876-2927	100	600
Gypsy	4	NE SW 32-27-6	2857-2902	1300	100
C. W. Titus	1	NW NE 22-21-12	T-D 1507	Aband.	.....
Osage-Hominy	79	NE SW 9-23-8	T-D 1077	Aband.	.....
Meridian Co.	2	NE NE 32-23-9	T-D 612	Aband.	.....
59 Osage	32	NE SW 9-24-11	T-D 2135	Aband.	.....
		Caddo County			
Magnolia	2	NE NE 36-6-10	2323-2358	25	.....
English Drilling Co.	1	SW SE 11-5-9	2308-2346	100	.....
Gorton Trust Co.	2	SE SW 12-5-9	2300-2320	10	.....
Homaokla	1	NE NW 13-5-9	2315-2328	60	.....
		Carter County			
Humble Oil Co.	9	SW SE 9-4-2	2091-2166	130	.....
Skelly	1	NW SW 15-4-2	2080-2315 OWD	250	.....
Wallace et al.	2	SW NW 27-4-2	T-D 2710	Aband.	.....
		Comanche County			
Coline Oil Co.	8	SE NE 25-1n-9w	T-D 2045	Aband.	.....
		Creek County			
Margay Oil Co.	1	SW SE 9-16-8 (Gas well deeper).	3560-3580	30	60
Cosden & Co.	1	NW SW 26-16-9	2960-2962	300	.....
Continental Pet. Co.	5	NW SW 27-16-9	2850-2889	600	.....
Continental Pet. Co.	2	NW NW 27-16-9	2887-2891	800	.....
Waite Phillips	1	C E L SE 27-16-9	2930-2934	100	.....
Gypsy & Johnson	10	SE NE 28-16-9	2959-2967	960	.....
Kawfield Oil Co.	1	NE SW 32-16-10	2655-2662	220	.....
Selby Oil & Gas	12	SW NE 10-15-10	2545-2585	25	80
Oklahoma P. & R.	6	NW NE 22-15-10	2560-2631	120	160
Lawrence Gas Co.	5	NE NW 36-19-7	T-D 2735	Aband.	.....
H. F. Wilcox O. & G.	1	NE 31-17-10	T-D 3078	Aband.	.....

(Continued on next page)

pany's No. 7, located in the northeast corner of the SW¼ of the SE¼ of same section is on top of the sand. The Oklahoma Central Oil Co.'s No. 7 Barnett, located in the center of the north line of the E½ of the NW¼ of Sec. 25-11-11, is making 10 million feet of gas and spraying about 100 barrels of oil in sand found at 2,452 feet. The well will be bradenheaded and drilled deeper.

In the NW¼ of the SE¼ of 13-11-11, Waite Phillips No. 3 Jefferson is making 75 barrels an hour in sand from 2,680 to 2,698 feet.

The Burbank field is now producing approximately 48,000 barrels a day from 193 wells, and is continuing along the even tenor of its way, each week bringing in good wells and adding constantly to its daily production. In this field the Gypsy Oil Co. completed its No. 4, located in the SW¼ of 32-27-6, and it is making 1,300 barrels in sand from 2,857 to 2,907 feet, after a shot of 100 quarts. The same company's No. 7 in the NW¼ of 5-26-6 is a 1,000-barrel well after a 100-quart shot in sand from 2,850 to 2,893 feet. The Carter Oil Co.'s No. 5, located in the SE¼ of 9-26-6, is in sand from 2,865 to 2,893 feet and is making 365 barrels daily.

The well of the Mid-West & Gulf Oil Corp., located in Sec. 2-10-9, is still making around 450 barrels a day while awaiting completion of pipe line now being built to it by the Sinclair Co. A number of wells are starting up in the vicinity of this wildcat, among them being a direct offset to the south by the Turman Oil Co., which is building a rig in the NE¼ of Sec. 11. E. R. Kemp et. al. are rigging up in the NW corner of Sec. 12, a diagonal offset to the southeast corner of the Mid-West's lease and the Plymouth Petroleum Co. has a rig up in the NE¼ of Sec. 11. The Mid-West & Gulf announced to-day that its test in the NW¼ of 13-17-9, west of Kelleyville in Creek county, has a hole full of water at 3,472 feet in the second Wilcox sand, and will be abandoned.

At Bristow, the Atlantic Petroleum Co. has a well making from 2,500 to 3,000 barrels daily in its No. 1 Ella Harry, located in the south half of the SW¼ of 22-16-9. This well topped the sand at 2,901 feet, and is now three and one-half feet in. In this district, Waite Phillips had two good completions during the week. The No. 2 McIntosh, located in the southeast corner of the SW¼ of the NW¼ of 27-16-9 is making 25 barrels an hour in sand encountered at 2,865 feet, and No. 7 on the same farm, in the NE corner of the SW¼ of the NW¼, is making 30 barrels an hour in sand found at 2,872 feet.

Texhoma Declares Dividends

FORT WORTH, March 10.—Texhoma Oil & Refining Co., at its annual meeting in Wichita Falls, March 8, ordered the payment of a three per cent quarterly dividend April 1, approved plans for an extensive "wildcat" campaign for production and re-elected officers.

W. B. Hamilton is president; N. H. Martin, vice president; C. W. Suider, treasprer; J. J. Perkins, secretary and J. D. Bright, assistant secretary. In addition to the foregoing members of the board of directors include Frank Kell, C. W. Gilliland, J. W. Kemp and A. W. Walker.

Completions in Oklahoma and Kansas Week Ending March 11, 1922

Company.	Well No.	Location	Depth	Initial Prod.	Shot
		Garvin County			
Magnolia	2	SE SW 11-1n-3w	1522-1537	40	.....
McLaughlin et al.	1	NW NE 14-1n-3	1405-1452	100	.....
Harris Bros.	1	NE NE 14-1n-3	1347-1375	35M	.....
Wrightsman	1	SE SW 18-1n-3	T-D 1716	Aband.	.....
		Lincoln County			
Roxana	1	SW SW 17-16-5e	T-D 4588	Aband.	.....
		Okmulgee County			
Beggs Oil & Gas	4	SE NE 10-15-11	1810-1878	30	100
Rockwell Oil & Gas	10	NW SW 10-15-11	2247-2281	60	40
Barbara Oil Co.	7	NE NW 18-15-11	2393-2434	75	.....
Sheridan Oil	4	NE NE 24-15-11	2181-2190	15	20
Black Petroleum Corp.	1	SW SW 34-12-12	2355-2569	250	.....
W. B. Pine	1	SW NW 28-12-14	2112-2145	7M	.....
J. H. Rebold	6	SW SW 26-13-14	1200-1210	30	.....
Test Oil Co.	3	SE NE 31-13-14	1890-1922	3M	.....
McMan Oil Co.	2	NW NW 6-14-14	2695-2696	4M	.....
J. A. Swindler	1	SE SE 21-15-14	2184-2189	480	.....
H. F. Wilcox	1	SE SW 32-11-12	T-D 2125	Aband.	.....
Wooster Oil	3	SE NW 19-12-13	T-D 2175	Aband.	.....
Indiahoma Ref. Co.	5	SW NW 33-13-11	T-D 3358	Aband.	.....
Barbara Oil Co.	3	SE NE 21-13-11	T-D 2656	Aband.	.....
		Okfuskee County			
Independent Oil	6	SW SE 13-11-11	2702-2712	2950	.....
Waite Phillips	2	NW SE 13-11-11	2694-2707	3960 & 5M	.....
Josey Oil Corp.	2	SW SE 24-11-11	2402-2415	640	.....
Lyons Pet. Co.	2	NW NE 24-11-11	2680-2687	2000	.....
Prairie	1	NW SW 4-10-12	3300-3312	Aband.	.....
		Pawnee County			
Constantin	2	NE SW 22-22-7	2574-2611	40	140
Twin States	2	NW SE 32-20-6	3012-3016 OWD	1½M	.....
		Payne County			
Amerada	6	NW SE 30-18-5	1795-1811	220	.....
Amerada	1	SW NE 30-18-5	3231-3253	40	40
Cosden & Co.	4	NE NW 31-18-5	3234-3249	140	.....
		Stephens County			
National Exploration	2	NE SW 30-1n-8	1973-3004 OWD	70	.....
Magnolia	2	NE SW 32-1n-8	2024-2028	70	.....
Wm. Hollis	3	NE SE 28-1s-8	2213-2224	50	.....
Westheimer	7	NE NE 34-1s-5	684-700	15	.....
Magnolia	2	NW SW 8-2s-4	635-645	2M	.....
Magnolia	2	SW NE 27-2-4	2048-2050	31M	.....
Roxana	1	19-1n-8	T-D 2286	Aband.	.....
Woodpick Oil Co.	3	NW SE 27-1n-8	T-D 1536	Aband.	.....
Magnolia	6	SE SW 8-2s-4w	T-D 700	Aband.	.....
		KANSAS COMPLETIONS			
		Greenwood County			
Willard et al.	2	SW NW 7-27-11	1898-1908	30	.....
		Butler County			
Oliphant Pet. Co.	5	SW NE 16-26-8	2460-2510	45	60
Great Southern-Tidal	2	SW NW 21-26-8	2650-2676	35	60
White Eagle O. & R.	1	SW SW 20-27-6	2688-2708	100 (est.)	.....
Sutter et al.	1	SW NW 13-28-5	T-D 2791	Dry	.....
Derby Oil Co.	2	NW cor 36-28-5	2733-2800	65	40

Production Of Mexican Crude Oil And Its Disposition To Purchasers

TAMPICO, MEXICO, March 9.—Daily average exploited production from Southern district pools in Mexico and purchases of crude by exporters from field sources, are shown in detail for the week ended February 25, as follows:

Southern District Production by Companies

Company	Amatlan	Tepetate	Toteco-Cerro Azul	Chinampa	Zacamaxtle	Potrero del Llano	Chiconcillo	Total
El Aguila	20,295	550				558		21,403
Agwi	10,138			12,896				23,034
Continental Mex				176				176
La Corona	7,763				2,626		6,154	16,543
Huasteca			222,000					222,000
nternational			89,314					89,314
Metropolitan	7,402							7,402
Mexican Gulf			123,312					123,312
The Texas Co.				1,660				1,660
Transcontinental	728			1,224	182			2,134
Totals	**46,326**	**550**	**434,626**	**15,956**	**2,808**	**558**	**6,154**	**506,978**

Purchases of Production by Exporters

Company	Amatlan	Toteco-Cerro Azul	Chinampa	Zacamixtle	Totals
El Aguila		47,705		490	48,195
Agwi	1,912			161	2,073
Continental Mex	4,784				4,784
Cortez-Atlantica	1,094	13,970	294		15,358
International		22,565			22,565
Metropolitan	2,235				2,235
The Texas Company	13,877	7,489	42		21,408
Tide Mex	1,912	6,547			8,459
Transcontinental		87,724			87,724
Totals	**25,814**	**186,000**	**336**	**651**	**212,801**

Note:—Panuco heavy crude production averages approximately 125,000 barrels daily, for all interests and purchases are generally distributed.

Frantz Forms Pipe Line Company; Refinery Runs Increased Again

By Special Correspondent

CASPER, WYO., March 10

ALTHOUGH the interest in the Rocky Mountain Region centered in the projected gas pipe lines, most of them in the southern part of Wyoming and northern Colorado, there was considerable activity in the Salt Creek oil field during the last week. The Wyoming Associated has reported three new wells. One is the No. 13-AX in the southeast quarter of 15-40-79, which came in with 235 barrels daily production from 2,021 feet. The No. 23-AX in the southeast quarter of 15-40-79 is flowing 520 barrels from 2,080 feet. The No. 30-AX on the southeast quarter of 27-40-79 looks like a good producer at 2,175 feet, although the production has not been estimated. It probably will make more than 400 barrels.

The Inland Oil and Refining Co., after getting a 1,050-barrel producer a week ago has a 380-barrel well on the southwest quarter of 18-40-78. The Western States Oil and Land Co. has a 500-barrel producer in the southwest of the northwest quarter of 5-39078 in its No. 33-A well.

The Wyokans Oil Co., on the southwest quarter of Sec. 18-40-78 got 600 barrels in its initial test of the No. 2 well on this location.

The Midwest Refining Co. well No. 6-A in the northwest quarter of 7-39-78 is making 360 barrels daily after being shot.

The Mountain & Gulf No. 21-A in the southwest quarter of 6-39-78 is making only 95 barrels now but it is to be shot by the company.

The coming of a little warmer weather during the last few days of the last week has resulted in some wildcat activity in the Rocky Mountain region. This is especially true of the wildcat operations in Wyoming and Montana. The northern structures of Montana will receive the most attention this year. The eastern, north central, and flanks of the Teapot dome and Salt Creek, as well as Baxter Basin will come in for attention in Wyoming during the coming season.

Western Kansas and eastern Colorado, northeastern Utah, northwestern Colorado and southern Idaho will be tested during the coming wildcat campaigns. The above named Utah and Idaho districts will receive an unusually thorough testing. At that corner where the states of Colorado, New Mexico, Arizona, and Utah come together there is a district which will come in for a good play.

Company Buys Line Pipe

The Western Line Pipe Co. has purchased 44 miles of 8-inch pipe line to be used in the construction of a pipe line from Salt Creek to Casper. The line is to be a common carrier and will be used to carry crude, the intention of the company is to be an exclusive transporting company.

The company says it will have ample gathering lines and big storage facilities at the field terminus in Salt Creek and a large storage capacity in Casper. This line would give the independent producers an outlet for their crude and enable them to sell to the highest bidder in open market. The company has nearly all of its right-of-way secured and preliminary surveys made. Hence, there is little need for any delay in the starting of construction work.

The Public Service commission of Wyoming will fix the tariff for transporting and storage of crude, subject, of course, to the approval of the federal government. It probably will be about 25 cents a barrel for piping from Salt Creek to Casper and a small charge made for storage.

The fact that the Sundance Pipe Line Co. was incorporated last week by Frank Frantz, former governor of Oklahoma, and his associates, has resulted in considerable comment in the oil fraternity of the Rocky Mountain district.

"Stove League" rumor has it that there is an understanding between them and some of the Standard subsidiaries whereby it is proposed to construct a pipe line from Salt Creek to Forsyth, Mont., with refineries at Spokane and Seattle. The inland trade would be handled through the Spokane plant while the Seattle works could market the products to the Orient. This pipe line would be about 240 miles in length and would have the water grade advantage the full route.

The company has an authorized capital of one million shares of no par value.

Ex-Governor Frantz formerly was identified with the Cosden interests in Oklahoma, and is the organizer of the Frantz Oil Corp. which completed the pioneer well in the Cat Creek field of central Montana. After the control of the company had passed from this corporation to the Elk Basin Consolidated Petroleum Co. (now the Mutual Oil Co.), Ex-Governor Frantz and his associates formed the Plateau Oil Corp. and the same later joined with R. K. Staley and Max W. Ball in the organization of interests now having offices in Denver.

Revive Talk of Big Plant

Officials of the Producers & Refiners Corp. have revived their plan to build a huge absorption plant for the recovery of gasoline from natural gas along the joint line of the Midwest and the Producers for natural gas from Carbon county to Casper, and at a point just outside of Casper and near the Standard refinery. This line is delivering about 20 million cubic feet of gas now and soon will be making deliveries of 30 million cubic feet daily. When this plant is completed it will be one of the largest of its kind in the world.

The Producers & Refiners also plan to build a smaller plant on the Sand Draw-Riverton-Lander line near Riverton during the coming summer season.

The Ohio Oil Co. drilling in 23-58-100 in the Elk Basin field has completed its No. 23, Elk No. 3 as a five million cubic foot gasser, the gas coming from a depth of about 2,550 feet. It is to be drilled deeper as the gas is needed for the company's Elk Basin-Billings line.

Starting on March 8, the refineries of the Standard Oil Co. of Indiana in Casper started taking 52,000 barrels of crude daily to be run in the plant of this company. This is considered by Standard officials as the maximum mark for handling of crude at the Casper plants. It is an increase of about 9,000 barrels daily over the recent high mark of 43,000 barrels. Although the company expected to increase to 45,000 barrels shortly, such a large hike in the capacity came as a surprise to many Casper oil men.

Possibly this increase is accounted for in the fact that the Standard will probably send 14 trainloads of export gasoline out of the city during the month of March. This is 840 carloads of gasoline and four trains more than the largest previous month's shipment to date. If 14 trainloads are shipped out in March, it will mean 8,400,000 gallons of gasoline will go to Baton Rouge to fill the 1922 export order of two million barrels of gasoline.

This month also will be the first time the Standard has started shipping the heavier grade of export gasoline. In other months, the lighter grades have been shipped.

Finds Living Cost High

The report of the joint general committee of the Standard Oil Co. of Indiana named to investigate the living and wage conditions here has made public its report. It shows that Casper's living cost is higher than Cheyenne and Laramie, Wyo., and Denver, Colo., the three cities investigated by members of the committee. Practically every necessity of livelihood in Denver was considerably cheaper than in Casper although only about 350 miles away.

The average general living cost per month of a common laborer in Casper was estimated to be $115.27. The committee reported that the laborer would earn about $124.80, figured from a $4.80 per day schedule.

It was found that shacks which rented for $25 to $35 per month in Casper were extinct even in Denver. Little one-room boxes renting for exorbitant prices were found only in Casper. Only meat prices were found to be on the same level or approximating those in Laramie and Cheyenne. They were slightly higher than those in Denver.

Douglas to Give Bonus

The Community Club at Douglas has practically completed the job of raising $25,000 to be paid as a bonus to the first company or person completing a commercially paying well within the Douglas trade territory. A number of firms signed for $500 to $1,000 amounts. The Big Indian Oil & Gas Co. and the Wyoming Chief Oil & Refining Co. will be the initial companies to go after this bonus, a test being started on the La Prele structure a few miles west of Douglas.

The No. 1 Pryor test of the Carter Oil Co. in 8-39-78 is being completed at 2,663 feet, after having been drilled through the second Wall Creek sand. The hole is standing full of oil and the well is to be put on the pump.

The New York Oil Co. is drilling its No. 7 Gordon test in 12-33-83 on down deeper from 1,365 feet, in the Poison Spider field. The well made about four million cubic feet of gas in the first Sundance sand. It is expected that it will make approximately 30 million cubic feet when completed.

Will Drill Another Deep Test For Gas

Staff Special

PITTSBURGH, March 11.—East of Parkersburg, W. Va., in Walker district of Wood county, the Hope Natural Gas Co. plans to begin a deep test on the Power Oil Co. tract as soon as the arrangements are fully worked out with the land owners.

This test will be one of the most interesting to be drilled in eastern fields this year, as it will indicate to some extent, as fully as need be for this territory, the possibilities of obtaining a gas production from horizons hitherto not productive in West Virginia because of their extreme depth.

This area is now productive in the Cow Run sand, found at a shallow depth. The Oriskany sand, which lies at the bottom of the Devonian, is the first sand sought and it is expected at 4500 to 4600 feet. Below this, if it is not productive, the well will be drilled to the Clinton, which is the big oil and gas producing formation in southeastern Ohio, and which is figured to lie 1200 to 1300 feet below the Oriskany.

The proposed test is located near the 4600-foot hole drilled three years ago by the Hope on the Volcanic Oil & Coal Co., tract, and which found a showing of gas in the Oriskany, sufficient to call for another deep one.

The future of the natural gas business in eastern states is by no means rosy and for this reason the Hope will continue its efforts to develop a deep-seated supply in West Virginia. The winter now closing has been mild, generally, and industries have been poor customers, so the supply has been adequate at all times. With a revival of demand on the part of industrial consumers and a severe winter, the supply now available would be far too small.

The Hope Natural Gas Co. has been the champion driller of deep holes in West Virginia and a perusal of its performance in attempting to augment the gas supply from formations generally considered out of reach of the drill shows that it has put down 39 wells to a depth of 4000 feet and better without getting anything. The appended list of these wells shows the work has been well distributed over a number of West Virginia counties. The Company has spent more than $400,000 on this group of wells without getting a cent in return.

The following list is of wells drilled by the Hope and the Reserve Gas Co.

Name	District	County
Drilled to Depths Between 4,000 and 4,500 Feet		
Clinton Findley	Barker	Barbour
Frank P. Maxwell	Union	Barbour
Granville Rice	Sherman	Calhoun
Porter Maxwell	Elk	Harrison
Melville D. Post	Elk	Harrison
Porter Arnold	Court House	Lewis
J. L. Swisher	Hackers Creek	Lewis
S. Alkire	Hackers Creek	Lewis
Mary V. Wilson	Meade	Marshall
Etta Bore	Clay	Monongalia
J. W. Tucker	Booths Creek	Taylor
Drilled to Depths Between 4,500 and 5,000 Feet		
A. J. Richman	Cove	Barbour
E. L. Smith	Elk	Barbour
Baxter Poling	Sherman	Calhoun
Martha A. Chalfant	Clay	Harrison
M. S. Brooke	Clay	Harrison
Eliza Robinson	Eagle	Harrison
J. A. Mills	Grant	Harrison
W. C. Burnside	Grant	Harrison
A. C. Deever	Simpson	Harrison
Craft Heirs	Court House	Lewis
S. D. Camden	Freemans Creek	Lewis
Levi Smith	Hackers Creek	Lewis
A. W. Woodford	Hackers Creek	Lewis
W. R. Jewell	Skin Creek	Lewis
Gould heirs	Skin Creek	Lewis
Mayton Lumber Co.	Middle Fork	Randolph
M. T. Burley	Flemington	Taylor
Chas. M. Hyer	Banks	Upshur
Volcanic Oil & Coal Co.	Walker	Wood
Drilled to Depths Between 5,000 and 5,500 Feet		
Jackson Arnold	Court House	Lewis
Reason Young	Meade	Marshall
Kendall Lumber Co.	Union	Monongalia
J. M. Carder	Glade	Barbour
Drilled to Depths Between 5,500 and 6,000 Feet		
Bennett heirs	Center	Gilmer
Drilled to Depths Between 6,000 and 6,500 Feet		
A. J. Reynolds	Eagle	Harrison
S. J. Freeman	McElroy	Tyler
Drilled to Depths Between 7,000 and 7,600 Feet		
M. O. Goff	Simpson	Harrison
I. H. Lake	Winfield	Marion

Good Supply Of Gas In Hardin Co. Field

FINDLAY, March 13.—Bringing in of a new gas well with a production of 800,000 cubic feet in the Roundhead field in Hardin county, Ohio, last week has stimulated activity in this section to a considerable extent. The new well is owned by the H. E. Smith Co., of Columbus and is located on the Douglas Poe farm, a mile north of Roundhead. It is declared to be the second best gas well in the Roundhead field.

The total tested production of six gas wells in the Roundhead field was reported today to be 2,685,000 cubic feet daily. Gas wells have now been drilled on the four corners of a square in the Roundhead gas field, the sides of the square measuring about four and a half miles in length.

W. T. Smith, general manager of the Roundhead Gas & Oil Co. said today that there are several companies bidding for the gas and making plans to utilize the field's output. Among companies interested Smith named the Lima Natural Gas Co., the Medina Gas & Fuel Co., and the Hickock Development Co., of Toledo.

Any one of the six gas wells now in the production column, with one exception, will supply Kenton, the Hardin county seat, with all the gas it wants or needs, Manager Smith said today. The Roundhead fields will be producing 6,000,000 cubic feet of gas a day by August, gas experts predict.

A new company is being organized in Hardin county for the purpose of drilling south of Kenton, it has just been announced. The company will be capitalized at $25,000 and will be backed by Kenton, Mt. Victory, Ridgeway and Taylor Creek interests. Four wells will be drilled immediately, it is understood.

Profits At El Dorado

SHREVEPORT, March 11.—H. M. Jones of El Dorado, Ark., just 21 years of age, has sold his H. M. Jones, trustee, property at a figure which he declares will enable him to pay $56 for every dollar that was invested. Jones began his ventures in oil and gas two years ago and was one of the first in the field when the El Dorado oil boom started. In the early days he paid $50,000 for ten acres near El Dorado.

Cumberland County Fields Are Active

By Special Correspondent

BURKESVILLE, KY., March 9.—Cumberland county, the scene of considerable activity in years past, which was brought into attention again last summer, is now getting another sizeable play as many of the rigs started several months ago by river to this section have arrived and are at work.

Attention was centered again on this locality after the Associated Producers Co. drilled in No. 1 G. W. Coop, Jr., for a flowing well last summer. This well, recently opened up again, is now making 100 barrels and the No. 2 on that part of the farm held by the McClintock Oil Co., of Cleveland, is good for 50 barrels at 540 feet. The No. 1 is also on the McClintock lease as the Associated Producers merely joined in drilling it to prove their acreage.

These wells are on Sulphur Creek south of Burkesville and in this same area, Lynch, Wick & McKee's No. 1 on the G. W. Coop, Sr., farm is believed to be a good well. It got the pay at 300 feet.

C. A. Gartlan's No. 1 on the Wix Donaldson farm is being held up by extremely high water. Charles Body's well on the Tom Graves farm, in the Salt Lick bend of Sulphur Creek, was to be shot and it promises to make a good well.

Just south of the Cumberland county line in Tennessee, W. S. Raydure expects to drill in this week.

E. E. Palmore, et al, will spud in on the J. T. Smith farm on Kettle Creek next week.

In the Brush Creek country of Cumberland, the Southern Oil & Refining Co. is drilling on the T. M. Glidewell farm and expect to complete this within ten days. This test is watched with much interest, as it is being drilled deeper than the average in the belief that a second pay will be found.

All the producers on Brush Creek have been shut down for some time as storage is full, but they are now pumping since the Carnahan Oil & Refining Co. again got into shape to handle the oil. This company's small topping plant at Creelsboro was burned some weeks ago but has been rebuilt.

Richardson & Goff are spudding in No. 3 on the Jake Radford farm.

On Bear Creek Crescent Oil Co.'s No. 1 on the Lela Keen farm has filled a 100 and a 250 barrel tank. This company will spud in No. 2 on the same farm this week. They will also complete No. 1 on the F. F. Smith 500-acre tract soon, the gas in this well having held up drilling for some weeks.

In the same region, McClintock Oil Co.'s No. 1 and 2 on the C. C. Smith farm have pumped 800 barrels of oil and the storage being full have stopped pumping. These wells with the Keen well of the Crescent prove a good-sized stretch of territory and the sand seems to be uniform.

McClintock's No. 1 on the William Ragle farm, two miles from the Smith wells, is a five-barrel completion in the first sand and will be drilled for a second pay.

Haynesville District Completes 13 Producers For 23,000 Barrels

By Special Correspondent

Shreveport, March 11.

DECLINE both in number of completions and initial production was recorded in the Shreveport territory, embracing El Dorado (Arkansas), during the week just closed, the initial yield having fallen off 11,635 barrels while the number of completions was nine short. The week's record was: 32 completions, two gassers, five failures, 25 producing wells with combined initial yield 24,515 barrels; compared with the previous week's record of: 41 completions, one gasser and 40 producers yielding together initial production 36,150 barrels.

The Haynesville district continued its record of leading all districts, although it felt a decline of 9,025 barrels in initial production and reported 10 less completions than during the previous seven days' period. The record for the week was: 14 completions, one failure, 13 producers with combined initial yield 23,250 barrels, compared with the previous week's record of 26 wells, three of them failures and 23 producers with combined initial yield 32,275 barrels. The results in Haynesville, from the standpoint of new production, were several times greater than those of all the other district together.

In El Dorado there were 12 completions, one a gasser, one a failure and 10 producers with combined initial yield 1,150 barrels, which was a smaller record than during the preceding week when El Dorado reported 17 producers with initial yields totaling 3,875 barrels.

In Caddo parish there was only one completion during the week. It was a 100-barrel producer, being the Lynn No. 1, 4-A, of the Old Settlers Oil Co., in 15-21-15, at 2,845 feet.

The Bellevue district of Bossier reported one lone producer, Chandler et al's Bliss & Weatherby No. 2 in 10-19-11, at 358 feet, initial yield only 15 barrels; and the Standard Oil Co.'s Smith No. 1 in 23-19-11, abandoned, account of salt water, at 710 feet. The only other completion in Bossier parish was the Thigpen & Herold test No. 1 of the McClannahan interests in 15-20-13, which was abandoned at 2,230 feet. This well had been watched with a great deal of interest, and its failure, naturally, caused much disappointment.

In DeSoto parish the only completion was the Pilgrim Oil Co.'s Ramsey No. 2 in 33-13-16 at 3,550 feet, junked and abandoned, and the only completion reported in Morehouse parish, northeastern Louisiana, was the United States Oil & Gas Co.'s Harris No. 2 in 17-20-5 at 2,200 feet, a gasser, with capacity 17 million cubic feet.

Ohio Completes Eight

Out of the 13 producers in the Haynesville district all but five were brought in by the Ohio Oil Co., whose eight completions showed total initial production of 19,950 barrels, one of the best records ever made in a week's time by any company in this part of the country. Six of the eight wells of the Ohio company showed initial yield of 1,000 barrels or better. One of them came in a 7,000-barrel well, namely, the Parker No. 3 in 23-23-8 at 2,800 feet, and another came in a 5,000 producer, being Parker No. 4, also in 23-23-8, at 2,796 feet. The only others getting a producer with initial yield exceeding 1,000 barrels in Haynesville was the Belchic & Laskey concern, whose Goodwin No. 1 came in at 2,800 feet in 15-23-8, yielding 1,500 barrels, and the Gilliland Oil Co.'s Goodwin No. 1 in 15-23-8 at 2,795 feet, 1,500 barrels.

Shreveport La., March 10.—With a total of 93,000 barrels, an increase of 10,000 over the previous week's record for that district, Haynesville registered all of the improvement in daily average production in the Shreveport territory the past week, except Homer, which jumped from 18,000 to 19,000.. The week's total was 159,550 barrels. By districts the daily averages, compared with those of the preceding week, were:

	Last Week	Previous Week
Caddo light	6,500	7,100
Caddo heavy	3,550	3,600
DeSoto-Red River	7,000	7,100
Haynesville	93,000	83,000
Homer	19,000	18,000
El Dorado	30,500	31,000
Total	159,550	149,800

The largest producer in the El Dorado district during the week was the Weiss Oil Corp.'s Thurkill No. 4 in 29-18-15, which came in a 300-barrel producer at 2,175 feet.

Completions last week were:

Haynesville District

Gilliland Oil Co., Goodwin No. 1, in 15-23-8, at 2,795 feet, 1,300 barrels.

Amerada Pet Co., White No. 1, in 20-23-8, at 2,786 feet, 720 barrels.

Belchic & Laskey, Orr No. 3, in 27-23-8, at 2810 feet, 200 barrels.

Gilliland Oil Co., Bond No. 8, in 21-23-8, at 2,768 feet, 50 barrels.

Belchic & Laskey, Goodwin No. 1, in 15-23-8, at 2,800 feet, 1,500 barrels.

Humble Oil & Refining Co., Hearn B-1, in 28-23-8, at 2,800 feet, salt water, abandoned.

Ohio Oil Co., Bond No. 2, in 21-23-8, at 2,752 feet, 500 barrels.

Ohio Oil Co., Lowe No. 1, in 17-23-8, at 2,800 feet, 250 barrels.

Ohio Oil Co., Parker No. 4, in 23-23-8, at 2,796 feet, 5,000 barrels.

Ohio Oil Co., Parker No. 5, in 23-23-8, at 2,800 feet, 7,000 barrels.

Ohio Oil Co., Account No. 2, in 15-23-8, at 2,790 feet, 1,200 barrels.

Ohio Oil Co., Taylor No. 3, in 15-23-8, at 2,890 feet, 2,500 barrels.

Ohio Oil Co., Taylor No. 7, in 15-23-8, at 2,800 feet, 1,000 barrels.

Ohio Oil Co., Waller No. 5, in 14-23-8, at 2,816 feet, 2,500 barrels.

Roxana Petroleum Co., Bond No. 7, in 21-23-8, at 2,792 feet, 250 barrels.

Caddo Parish

Old Settlers Oil Co., Lynn No. 1, 4-A, in 13-21-15, at 2,845 feet, 100 barrels.

Bossier Parish

Chandler et. al., Bliss and Weathersby No. 2, in 10-19-11, at 358 feet, 15 barrels.

Standard Oil Co., Smith No. 1, in 23-19-11, 710 feet, salt water, abandoned.

McClannahan, Thigpen and Herold No. 1, in 15-20-13, at 2,230 feet, abandoned.

DeSoto Parish

Pilgrim Oil Co., Ramsey No. 2, in 33-13-16, at 3,550 feet, junked and abandoned.

Morehouse Parish

United Oil & Gas Co., Harris No. 2, in 17-20-5E, at 2,200 feet, 17 million cubic feet of gas.

Arkansas Area (El Dorado)

Coates and Sowell, Brewster No. 1, in 25-17-16, at 2,150 feet, 2 million cubic feet gas.

Rucker et. al., Cordell No. 2, in 24-17-16, at 2,160 feet, 70 barrels.

Southern Oil Co., Armstrong No. 7, in 31-17-15, at 2,160 feet, 125 barrels.

Arkansas Natural Gas Co., Cullens No. 238, in 4-19-15, at 2,175 feet, 150 barrels.

Coates and Sowell, Benson No. 3, in 4-19-15, at 2,185 feet, 50 barrels.

Constantin Oil & Refining Co., Coombs No. 2, in 18-18-15, at 2,165 feet, 100 barrels.

Henderson et. al., Benson No. 1, in 4-19-15, at 2,200 feet, 50 barrels.

Humble Oil & Refining Co., Carroll No. 5, in 29-18-15, at 2,185 feet, 100 barrels.

Magnolia Petroleum Co., Brown No. 1, in 16-18-15, at 2,150 feet, salt water.

Standard Oil Co., Coates No. 3, in 33-18-15, at 2,150 feet, 175 barrels.

Weiss Oil Corp., Thurkill No. 4, in 29-18-15, at 2,175 feet, 300 barrels.

Gulf Refining Co., Goodwin No. 1, in 35-17-16, at 2,250 feet, 30 barrels.

Get Pay In Wildcat West Of Haynesville

By Special Correspondent.

SHREVEPORT, March 11.—Although not yet half developed, the Haynesville field of Claiborne parish is taking the high laurels, which formerly were claimed by the Homer field in the same parish. The Weideman well, which extended the Haynesville field one mile to the west, indicated that the productive area might extend across the line into Webster parish.

The width of the newly proven strip is believed to be roughly defined on the south by the southern line of section 19-23-8 and on the north by a line drawn about a quarter of a mile north of the southern line of 7-23-8. The LeVert Oil & Gas Co.'s Hunt No. 1, in 7-23-8, just inside this hypothetical northern limit of production, and about a mile northwest of the Weideman well, encountered four feet of pay sand Friday at between 2,775 and 2,779 feet, and bailing is now under way, or is due to be under way.

The sensational performance of the Weideman, and resulting activity nearby, has distracted attention from the fact that the eastern end of the field is yet open to possible extension across the eastern line of 13-23-8. Such an extension, it is considered, may be regarded as improbable, but no more improbable than a westward extension at one time appeared.

At present the uttermost production is obtained from six wells clustered around the center of 24-23-8. Between that point and the nearest production to the west lies an undeveloped area from a mile to a mile and a half long by two miles wide, which, it is estimated, may prove productive. The Louisiana Oil Refining Corp. and the Gilliland Oil Co. are now driling wells to test their Sherman and Harp leases located within that area. The Ohio Oil Co. owns leases on an area three miles long by a half mile wide, consisting of the northern halves of sec. 21, in the heart of the field, which, save for two 7,500-barrel producers, has not yet been drilled. The same company owns almost all of the northern halves of sections 13, 14, 15 and 16, upon which only essential offsets have been drilled.

Pennsylvania Geologist Denies That He Is Planning Legislation

Staff Special

PITTSBURGH, March 10

WARREN County, Pa. producers constituted the county chapter of the Pennsylvania Oil Men's Association to take the lead in meeting the new plan of financing the state association in preparation for the fight officers of the association believe they will have on their hands when the state legislature meets next January.

The State association is preparing this far ahead for the reason that they believe it will require the united efforts of the industry in Pennsylvania to stave off attempts to saddle repugnant laws upon the oil industry, the chief of which will be a gross production tax measure.

The Warren county meeting was attended by a number of the leading producers in that region and the chapter underwrote its entire assessment to the state association for the next three years. The new plan of financing is to collect the subscriptions for a three-year period. Dues for active members are $15 and for associate members is $5.

Other meetings will be held within the next few weeks in McKean, Allegheny, Venango and Washington counties. The state of the weather will be a determining factor in fixing the dates of the meetings, David L. Starr, of Pittsburgh, secretary of the state association, says. The county chapters elect their own officers and representatives of these chapters constitute the directorate of the state association.

There has been no open announcement that detrimental legislation is planned, but the association officers have information that legislators in the eastern part of the state, hence in the non-producing section, look upon the oil industry as a means of raising part of the state deficit, estimated at twenty-five to forty million dollars. Furthermore, this is reported to contemplate a gross production tax of not less than one per cent.

Geologist Denies Statement

That an erroneous conclusion has been drawn regarding the activities of the state geological survey in the looked-for attempts to pass restrictive statutes at the next session, is the statement made by George H. Ashley, state geologist, in a letter which was sent to **National Petroleum News** and to Mr. Starr on March 7. This reads as follows:

"I see by the papers from the western part of Pennsylvania that it is again being rumored that the State Geologist or other persons in Harrisburg have men in the field gathering data to form the basis of legislation which is felt would throttle the oil and gas industry. The State Geologist has no one in the oil and gas field at present and at the present time has no idea of preparing or presenting to the next session of the legislature any legislation affecting the oil and gas fields.

"If conditions in the future should seem to render such legislation desirable, any such proposed legislation would certainly be presented to the leading men in the oil and gas industry for their opinion and advice before being presented to the legislature. I believe I am in fairly close touch with the other state departments at Harrisburg and no word of any such proposed legislation has come to my ears.

"On the contrary, the Geological Survey is devoting its time to a study of those problems whose solution will aid the oil and gas industry. In line with this is the State Geologist's announcement recently made that the working out of the structure of the Greensburg quadrangle has just been completed and that in order to avoid the long delay before it can be printed, the manuscript map will be open to inspection in his office, and that photostat copies can be supplied, as an accommodation, at cost (fifty cents). This is a new departure in making immediately available information gathered by the survey.

"Another study has recently been made of the recovery of oil in the apparently exhausted fields, such as the Bradford field, by the use of water, compressed air, and other means. The result of this work will be made public at the earliest opportunity.

"Anything you can do to spread the word that the State Geologist did not propose any oil or gas legislation during the last Legislature, and does not propose to do so at the next Legislature, will be greatly appreciated here and may relieve the minds of many oil and gas men."

This letter follows the published statement in a western Pennsylvania newspaper that "At this time representatives of the State Geologist are in the oil and gas fields securing data for a bill which would cripple the industry."

Mr. Starr's comment is that he believes Mr. Ashley would do just as he says he would: Submit any idea he might have for legislation to the oil men for criticism and suggestions and that he would be guided by their opinions as to the beneficence of such legislation. As he has submitted nothing, it is only fair, Mr. Starr believes, to assume he has nothing in mind to ask the Legislature.

Production Tax Possible

The gross production tax, however, is regarded as a strong possibility and the defense to its passage must be one of education, Mr. Starr believes. The oil and gas regions of the state, both areally and in population, constitute the minority, hence the non-producing area has the control of the Legislature. At the last session of the Legislature, there were several bills introduced that would hamper the industry, one being a proposal to place drilling under supervision of the Public Service Commission, but this was killed in committee.

"The Legislators," said Mr. Starr, "must be made to realize that the oil and gas producing industry of Pennsylvania is a dying industry. The producer would have to bear whatever gross production tax might be levied and this would be a further discouragement to the development of the little possible territory that remains in the state."

A production tax while the present market prevails would compel the discontinuence of what little work can be done now at a profit, and that amount is exceedingly small. Figures gathered by the state association showed a barrel cost of production in 1920 to be $4.29 after charging off depletion and depreciation and amortizing drilling costs. The lifting cost average for the state was more than $3. Figures are now being gathered for 1921 and it is believed they will show little change over the preceding year. Hence many of the 67,500 producing oil wells in the state, with their average of three-tenths of a barrel daily, would be dropped from the producing columns altogether with any additional burden of expense placed upon their operation.

Best Well Of Week In Cabin Creek Pool

By Special Correspondent

PARKERSBURG, W. VA., March 11.—Southeastern Ohio failed to return anything except shallow sand pumpers the past week and West Virginia had only two completions of size sufficient to warrant mention. One of these is the No. 17 Lafollette-Robson & Pritchard of the Pure Oil Co., in Sherman district, Boone county, which is an extension of the Cabin Creek pool. This will make 100 barrels after a shot, it is estimated on the strength of the initial showing.

Trainer & Travis got a 25-barrel well in their second test on the A. M. Barker in New Milton district, Doddridge county. This is in the Big Injun sand.

In Ohio there is a considerable amount of drilling in the hope of opening up more Berea grit pools, but nothing of consequence has been developed outside the Knox county pool in Harrison and Clay townships where the wells are small and the territory pretty well defined.

Engineering Congress Hears Papers On Oil

Staff Special.

KANSAS CITY, March 11.—The on the petroleum industry, held under the auspices of the Kansas City Engineers Club and the Kansas City section of the American Society of Mechanical Engineers, concluded a two-day meeting on Tuesday, March 7, the morning session having been devoted to the reading of several interesting papers, while in the afternoon the visiting engineers were taken on automobile trips to various points of interest in the vicinity of Kansas City.

Papers read at the morning session included "Application of Electricity in Oil Fields," by W. F. Barnes of the Westinghouse Electric and Manufacturing Co., Kansas City; "Oil Transportation" by Charles A. Mason, Assistant superintendent, Empire Gas & Fuel Co., Bartlesville, and "Accountancy in the Oil Industry" by H. M. Rush, of Ambercrombie and Rush, accountants, Tulsa. Mr. Mason's paper on pipe lines was discussed by S. B. Hadley, of McIntosh and Seymour, Kansas City. Mr. Rush was unable to be present for the meeting, and his paper was read by G. W. Lavangie of his office.

United States' 1921 Production Was 61.9 Per Cent Of World's

By Special Correspondent

NEW YORK, March 11

PRODUCTION of petroleum in the United States in 1921 was 61.9 per cent of the estimated world's production for the year, according to the figures of the American Petroleum Institute. The 1921 world's production was estimated at 759,030,000 barrels of which the United States produced 469,639,000 barrels.

The world's 1921 production increased 64,176,000 barrels over 1920 when it was estimated at 694,176,000 barrels. This was a gain of 9.2 per cent. The gain in American production in 1921 over 1920 was 5.9 per cent.

Mexico's production in 1921 was 195,064,000 barrels, an increase of 19.3 per cent over the 1920 production which was 163,540,000 barrels. This output was 25.7 per cent of the world's production and combined with that of the United States composed 87.6 per cent of the total recovery.

Incomplete figures from Russia indicate a production in 1921 of 28,500,000 barrels, compared with 25,429,600 barrels in 1920.

No official estimate could be secured at this time for the production of the Dutch East Indies, but reports indicate little change in output of 1921, as compared with output of 1920. The production in 1921 is stated as 18,000,000 barrels, compared with 17,529,210 barrels in 1920.

Persian Production Grows

Persian production in 1921 is estimated at 14,600,000 barrels, compared with 12,352,655 barrels in 1920. No official estimate could be obtained and the figures shown are based on indicated pipe line runs. The British Petroleum Department, while having no exact figures for Persia in 1921, advises it may be presumed "that they are more rather than less than for 1920."

Roumania's production in 1921 totaled 8,347,000 barrels, compared with 7,435,344 barrels.

A slight decrease is indicated in India's petroleum production in 1921, the 1921 estimate being 6,864,000 barrels, compared with the U. S. Geological Survey's figure of 7,500,000 barrels in 1920. The British Petroleum Department's estimate, however, for 1920, is lower than the figures shown for that year and a slight increase for 1921 is indicated on this basis.

Preliminary figures show Poland's Galician production in 1921 substantially under the 1920 figures. The estimated output is 3,665,000 barrels, compared with 5,606,116 barrels in 1920.

Peru showed a substantial increase, the estimated output being 3,568,000 barrels in 1921, as compared with 2,316,649 barrels in 1920.

Japan's Recovery Increases

The production of Japan and Formosa in 1921 is estimated at 2,600,000 barrels, compared with 2,139,777 barrels in 1920, the 1921 figures being based on an official estimate of Japanese production and an approximation of Formosa's production.

Trinidad's production showed a slight increase in 1921, the official estimate being 2,354,000 barrels, compared with 2,083,027 barrels in 1920.

Argentina's output in 1921 is officially placed at 1,747,000 barrels, compared with 1,665,989 barrels in 1920.

Egypt's production showed a slight increase, being officially estimated at 1,181,000 barrels, compared with 1,042,000 barrels in 1920.

Venezuela's production more than doubled in 1921. Its output in that year is estimated at 1,078,000 barrels, compared with 456,996 barrels in 1920. Production of other countries showed little change over 1920, according to the 1921 estimates.

The estimated world's production of petroleum in 1921 follows:

	1921 Barrels	1920 Barrels
United States	469,639,000	443,402,000
Mexico	195,064,000	163,540,000
Russia	28,500,000	25,429,600
Dutch East Indies	18,000,000	17,529,210
Persia	14,600,000	12,352,655
Roumania	8,347,000	7,435,344
India	6,864,000	7,500,000
Poland (Galicia)	3,665,000	5,606,116
Peru	3,568,000	2,816,649
Japan & Formosa	2,600,000	2,139,777
Trinidad	2,354,000	2,083,027
Argentina	1,747,000	1,665,989
Egypt	1,181,000	1,042,000
Venezuela	1,078,000	456,996
France	392,000	388,700
Germany	200,000	212,046
Canada	190,000	196,937
Italy	35,000	34,180
Algeria	3,000	3,916
England	3,000	2,909
Others	1,000,000	1,015,949
Total	**759,030,000**	**694,854,000**

Adds Three Million Barrels To Storage

Staff Special

TULSA, March 11.—The extent to which the major purchasers of crude in the Mid-Continent and southwest are attempting to take care of their own production and that of the producers with whom they have connections is indicated by the storage and pipe line building program of the Gulf Oil Corp., through its various subsidiaries.

Exclusive of its storage building program at Mexia, the Gulf is building or has built within recent weeks, the following number of tanks, each of 55,000-barrel capacity:

Lucas Station	18
Sour Lake	5
Timpson Station	2
Oklahoma	5
El Dorado	5

This makes a total of 1,925,000 barrels steel storage recently built or building. In addition Gulf has leased four 55's in Oklahoma and has purchased three from the White Oil Corp. at El Dorado. A large amount of earthen covered storage has been built on the Gulf Coast and at Mexia 20 of the 55's have been built or are building. These at Mexia constitute that part of the original program of 50 tanks planned, the other 30 of which will not be built.

As announced two weeks ago, Gulf is now looping its main line through Oklahoma which will add 7,000 to 8,000 barrels daily to the capacity and will bring the total daily capacity of the line southward to around 30,000 barrels daily. Eight-inch loops formerly were maintained, but with the big development at Burkburnett and Ranger at the time pipe was scarce, these units were torn up to be laid in Texas.

Gulf is also increasing its facilities from North Louisiana to Lufkin, and will increase its line from that station south by the same amount.

Haskell Interests Buy L. & N. W. Line

By Special Correspondent

SHREVEPORT, March 11.—Former Governor C. N. Haskell of Oklahoma, president of the Middle States Oil Co., has completed negotiations for the purchase of the Louisiana & North West railroad running between Chestnut, La., and McNeil, Ark., through the Haynesville and Homer oil fields.

The negotiations were begun about two years ago, when the road was under great financial embarrassment. On the first of October, 1920, when the road had stopped train service after having operated at heavy losses, Ernest R. Bernstein, Shreveport banker and former mayor of this city, was appointed receiver by Federal Judge G. W. Jack. Under the Bernstein management the road has been improved and has earned enough money to pay off obligations and have about $100,000 cash on hand.

The official announcement by the purchasers is as follows:

In the interest of his companies, Gov. C. N. Haskell, chairman of the Middle States Oil board, has purchased the Louisiana & North West Railroad, and immediately will institute improvements necessary to handle the rapidly growing traffic in the oil fields extending about 75 miles along its 120 miles from Chestnut, La., to McNeil, Ark. Orders to rebuild the roadbed and purchase additional equipment, especially cars suited for transporting oil, already are being executed. The road, built in 1905, was of small consequence until discovery of oil along its line. Gross earnings prior to this rarely exceeded $20,000 per month; as a result, the road went into the hands of a receiver in 1913, where it had remained ever since. Opening of the Homer oil field gave a little improvement; the Magnolia field added strength, and finally the discovery of the Haynesville field, even with its inadequate equipment and facilities, enabled La. & N. W. to earn over $203,000 in January, 1922.

Gov. Haskell having given careful consideration to the Haynesville field, and, finding that scientific opinion concludes that for clean, long-lived production, and believing that it probably will make a record superior to any other field in Louisiana, promptly took the marketing end of the proposition and purchased the road. The Homer, Magnolia and Haynesville fields depend upon it as their one means for rail transportation, and its possibilities may be conjectured when it is known that in Haynesville alone daily production now is 80,000 barrels, with wells on the sand that doubtless would raise this to 125,000 barrels, against pipe line capacity of less than 35,000 barrels.

The new board of directors is composed of J. T. Monahan, vice president of the Metropolitan Trust Co. of New York; W. M. Cannon, general counsel of Middle States; Adam H. Davidson, provident business man of Dallas, Texas; Lieut. J. Sherry O'Brien, of Middle States, and W. F. Carter, general counsel of the Boatmen's Bank of St. Louis.

Oklahoma-Kansas Gain 29,000 Barrels Daily

Staff Special

TULSA, March 11.—Estimated daily average production for February as compared with the same figures for January indicate a gain in production for Oklahoma of 26,502 barrels, and for Kansas 2,677 barrels, a total gain for this Mid-Continental district of 29,179 barrels. Oklahoma's daily average production during February was 364,841 barrels, as compared with 338,839 barrels in January, while Kansas produced 82,777 barrels daily in February as against 80,100 barrels in January.

January was only 7,947 barrels in excess of production during December, in Oklahoma. The large increase for February was practically all due to continued increases in production of the Lyons and Burbank pools, the remainder of the state's productive fields showing very slight changes one way or another. The average of the Lyons pool for the month of February was 27,000 barrels, as compared with 12,500 barrels during January, which represents an actual daily production in the closing days of the month of approximately 45,000 barrels.

Creek county, the leading oil-producing county in the state, averaged 100,280 barrels daily during February. Its nearest competitor was Osage county with a daily average of 80,508 barrels, over half of which is derived from Burbank.

Fields in southern Oklahoma showed a general decline in production, the daily average for February having been 81,330 barrels as compared with 82,683 barrels in January, a decrease of 1,353 barrels. In the table given below are shown daily average production figures for principal producinig areas in Oklahoma and Kansas:

Comparative Statement Showing the Estimated Daily Average Production of the Mid-Continent Field for the Months of January and February, 1922.

Oklahoma	January	February
	Barrels	
Allen	525	510
Bald Hill	4,400	4,900
Billings, Billings Ext., Barnes	1,250	1,200
Bird Creek, Skiatook, Flat Rock	5,700	5,700
Bixby	1,425	1,250
Blackwell	2,750	2,700
Boynton	1,500	1,500
Broken Arrow, Inola	550	575
Cleveland (T-20-21 R 7-8)	5,390	5,305
Jennings Pool	5,245	5,140
Coweta	300	300
Cushing	28,800	28,940
Deer Creek	200	240
Depew	1,015	1,650
Garber	6,100	5,800
Glenn Pool—Red Fork	10,500	10,500
Beggs District	20,950	21,390
Henryetta	375	370
Deaner Pool	3,300	3,200
Lyons Pool	12,500	27,000
Kelleyville—Bristow	12,500	20,000
Slick Pool	15,000	15,600
Mannford	550	600
Morris	1,950	2,100
Mounds	1,150	1,100
Muskogee	900	900
Mervine—Newkirk	1,250	1,200
Osage	75,490	80,508
Ponca City	1,300	1,300
Stone Bluff	775	775
Tiger Flats	3,700	3,700
Tonkawa	3,100	3,050
Washington and Nowata Counties	14,351	14,308
Yale	9,865	10,200
Sub-Total	255,656	283,511
Southern Oklahoma	**January**	**February**
	Barrels	
Cement	1,886	1,880
Comanche	922	900
Duncan	16,992	16,500
Fox	3,450	3,500
Healdton	22,000	21,750
Hewitt	33,000	32,250
Loco	1,300	1,350
Robberson	1,000	1,100
Walters	2,133	2,100
Sub-Total	82,683	81,330
Total Oklahoma	338,839	364,841
Increase	26,502	
Kansas	**January**	**February**
	Barrels	
Augusta	13,000	14,750
Elbing—Peabody	11,000	12,300
Eldorado	21,000	21,492
Florence—Covert	14,000	13,035
Greenwood County	9,500	8,500
Other Fields	11,600	12,700
Total Kansas	80,100	82,777
Increase	2,677	
Total Mid-Continent	418,439	447,618
Increase	29,179	

Juicier Melon For Osages On March 20

TULSA, March 11.—It has been announced through the Osage Agency at Pawhuska, that the next quarterly payment to the members of the tribe will be double the amount of the similar payment made last December. This increase is due to large bonuses paid for leases at recent Osage sales as well as to the increased production in the Osage due to the Burbank development.

The quarterly payment will be made beginning March 20, and will amount to $2,200 for each of the 2,229 shares on the tribal rolls, or a total of $4,903,800. If all payments during the year equal this one, each member of the tribe will receive an income of $8,800 derived from oil royalties and bonuses paid for leases. This would still be less than the high point reached during the year 1920, when, with oil selling at $3.50, each member of the tribe received $10,000 as his share of the petroleum proceeds.

Operators Preparing To Increase Drilling

By Special Correspondent

FINDLAY, March 13.—Drilling activity is steadily increasing in the Lima field, as well as throughout the Central West, as spring approaches, despite the fact that present completions are rather light.

Operators are hopeful that the present market will continue unchanged and are proceeding to base their plans upon prospect of no slump in the crude prices for the present at least.

The McComb field in Pleasant township, Hancock county, furnished the best producer of the week in the Lima field, The Ohio Pipe Line Co. bringing in a 15-barrel pumper. Maire and others in Marion township, Allen county, completed a 10-barrel producer. Sherman and others have a 12-barrel well in Harris township, Ottawa county.

The Ohio Oil Co. has a 35-barrel well in Dennison township, Lawrence county, Illinois.

EDGEMONT, S. D., March 10.—Lack of funds and severe winter weather has held up driling work in the region near here. A little work has been done by two or three companies. Gus Tylee and his associates on the Wittick lease, 10 miles northwest of Edgemont, have been attempting to keep operating all winter but with difficulty. The test is now down 700 feet. This test is located near the north end of the Agate structure, between the Mule Creek and Beaver Creek districts.

Much snow and drifting by high winds has made most of the roads in this region practically impassable.

Status Of Mexia Wells Making B. S. And Salt Water, With Percentages

Staff Special

MEXIA, TEXAS, March 9.—The b. s. and water status of wells in the Mexia field of Limestone county, as of March 1, is shown in the sub-joined table. Where blanks appear in the production column the wells are not being exploited currently but were making b. s. and water when shut in. Other wells enumerated as showing b. s. and water are being treated in one way or another and some degree of successful recovery of oil is being made in nearly all cases. Still other wells which made salt water while being flowed at more nearly their flush values and which cleared up when pinched down to the point where they are making pipeline oil are not included in the sub-joined table.

Company	Lease	Wells	Production	Per cent B. S.	Per cent Water
Gulf Production Co.	Thompson	2	300	.10	
Humble Oil & Refining Co.	Koenig	1	1700	.30	
Humble Oil & Refining Co.	Abner	2		.10	
Humble Oil & Refining Co.	Slaughter	1	900	.10	
Humphreys-Mexia Co.	Clark	1		.15	
Humphreys-Mexia Co.	Kimble	1	3000	.15	
Humphreys-Mexia Co.	Kennedy	2	3000	.25	
Humphreys-Mexia Co.	Kollman	1			.50
Humphreys-Mexia Co.	Rodgers	1	50	.10	
Humphreys-Mexia Co.	Winn	1	50	.15	
Jones et al.	Thompson	1	6000	.90	
Magnolia Petroleum Co.	Desenberg	5			.90
Magnolia Petroleum Co.	Slaughter	1	60	.35	
Magnolia Petroleum Co.	Mills	1	350	.2	
Magnolia Petroleum Co.	Thompson	B-5	150		.5
Simms Oil Co.	T. Carter	1	2000	.40	
F. L. Thomson	Bluitt	2	4500	.15	
U. S.-Tex Oil Corp.	Anderson	5	2000	.25	
U. S.-Tex Oil Corp.	Anderson	8	1600	.25	
White Eagle O & R Co.	Liles	1	500	.3	
White Eagle O & R Co.	Liles	2	75		.20
White Eagle O & R Co.	Liles	3	75	.10	
White Eagle O & R Co.	Liles	5	200	.5	
White Eagle O & R Co.	Liles	6	700	.15	
White Eagle O & R Co.	Liles	9	400	.20	
Travis et al.	Clark	2	350	.15	

West Texas Well Is Good For 50 Barrels

Staff Special

FORT WORTH, March 10.—Underwriters' Oil Corp's. No. 2 Morrison, in Mitchell county, central west Texas, is estimated good for about 50 barrels daily at the 2950 foot level. It was shot with 110 quarts of nitro-glycerin at the end of last week after it had made a good natural showing in sand found in limestone formation. The showing was from 2920-2946 feet. When the shot went off it jarred loose the casing and let in water, operations to cut off which are now under way.

When originally brought in a year or more ago the No. 2 Morrison well made a three barrel natural show at 2363-2435 feet. It was shot with 160 quarts at that time and the initial production after the shot was 36 barrels. The well settled quickly to five barrels daily. More recently casing was set through the sand and deeper drilling pursued.

The original Mitchell county well, which is an area of west Texas surfaced by Permian geology, was the No. 1 Texas Pacific of the Underwriters company which had 43 feet of pay at 2388-2431 feet. Although the showing was not large after a 600 quart shot the well has been making about 10 barrels daily for a year. The oil is black in color, of asphaltic base and tests about 27 degrees Be., gravity.

Recommend Values For Oil Taxation

Staff Special

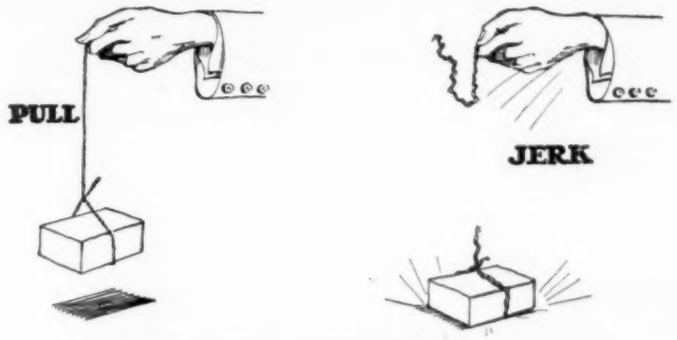
OKLAHOMA CITY, March 11.—A committee appointed by the president of the County Assessors' Association of Oklahoma, recently assembled here recommended units of values to be used in making 1922 ad valorem assessments on oil properties in the state. Specifications and classifications of oil and storage were made by the Oklahoma board of equalization. Although not absolutely final the recommendations of the committee are generally taken as the last word in valuation.

Special Grades—	
Crude from Garber	$2.00
Crude from Billings	2.00
Mid-Continent Grade—	
Crude stored since Jan. 1	2.00
Crude stored less than year	1.80
Crude stored 1 to 5 years	1.50
Crude over 5 years old	1.20
Healdton Grade—	
Crude stored since Jan. 1	1.30
Crude stored less than year	1.17
Crude stored 1 to 5 years	.97½
Crude over 5 years old	.78
Steel Storage—	
Tanks built since 1914	.15
Tanks over 7 years old	.10

The schedule for property classified as personal, including oil field tubular goods, subject to ad valorem tax is valued at the same schedule which has been in force in Oklahoma for the past seven years.

OIL CITY, PA., March 11.—The report of the Pure Oil Pipe Line Co. or February, and comparison with January, is as follows:

	Feb.	Jan.
Runs	103,467.07	95,414.85
Deliveries	126,497.69	93,197.52
Stocks	322,328.47	342,832.16



ABOUT "JERKING" WIRE LINES

A piece of twine that will lift a brick when the lift is easy, will break if the lift is a "jerk."

A cable tool driller whose tools weighed only 800 lbs. snapped in two, 9 times in succession, a 5-8" Cast Steel line the proper working load of which was 2.5 tons, and the breaking load 12.5 tons.

You can't avoid "jerks," in drilling. For this reason lines of great over-strength should be used. Every Williamsport Line is over-strength, as compared with the average line of the same technical description. Williamsport distributors are thoroughly posted on the proper application of Williamsport Lines to oil industry needs. They can give you sound advice on the line to buy for greatest service and satisfaction.

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Bulletin 400 will be sent free to business executives. On pages 4 and 5 are listed a full table of capacities and sizes, and different designs are illustrated. *Write to-day for your copy of Bulletin 400*

THE YOUNGSTOWN BOILER & TANK COMPANY
YOUNGSTOWN, OHIO
SOUTHWESTERN OFFICE: 1409 F. & M. Bank Bldg. Fort Worth, Texas

Among The Producers

HOUSTON, March 11.—B. G. Dawes, president of the Pure Oil Co., is in Houston pushing the work on the company's pipe line to the coast. He says the line will be completed before May 1.

* * *

ALLANREED, TEX., March 9.—James I. Harvey and associates of Amarillo expect to spud in before April 1 on a test in Gray county, 65 miles east of Amarillo on the Rock Island railroad, near Allanreed. They control a block of approximately 18,000 acres "wildcat" leases.

* * *

HOUSTON, March, 9.—Moulton King of Allanreed, Texas, ranch owner of the Panhandle territory and an extensive investor in oil securities, has been spending a few weeks in the territory around Houston, which he describes as a "vacation."

* * *

HOUSTON, March 11.—F. Ray McGrew, pipeline superintendent of the Standard Oil Co. of Louisiana, with headquarters at Shreveport, has returned home after a visit to his family, who have been in Houston at the home of R. V. Hanrahan, vice president and general manager of the Humble Pipeline Co. Mr. McGrew's family are continuing their visit a short time but he left Sunday.

Lumber and Material Yards and Hardware Stores

at

Tulsa	Okla	Phone 500
Pawhuska	"	" 500
Hominy	"	" 500
Sand Springs	"	" 500
Fisher	"	"
Coweta	"	" 500
Broken Arrow	"	" 500
Mannford	"	" 500
Morris	"	" 500
Bixby	"	" 500
Red Fork	"	" D555
Pearsonia	"	" 500
Skiatook	"	" 500
Wynona	"	" 500

GENERAL OFFICE KANSAS CITY

DICKASON GOODMAN

Lumber *Hardware*

PITTSBURGH, March 10.—Ray V. Hennen of the geological staff of the Transcontinental Oil Co., has recently returned from Venezuela where his company recently obtained large concessions lying to the north of the Orinoco River and extending northward almost to the coast. Mr. Hennen, who formerly was assistant state geologist of West Virginia, will remain in this country for some time.

In The Okmulgee District

OKMULGEE, OKLA., March 11.—Indiahoma Refining interests represent by James J. Schock and David E. Schock were hosts here on March 7 to a group of bankers and capitalists of Kansas City, who came to Okmulgee to investigate development prospects in this district. The group included Henry M. Flower, chairman of the board of the Fidelity National Bank & Trust Co.; George T. Trimble, vice-president of the Fidelity; Lester W. Hall, vice-president of the Fidelity; E. C. Downing, president of the New England National Bank and H. L. Traber, vice-president and general manager of the Kansas, Oklahoma & Gulf railroad. The party made the trip to Okmulgee on board a special train which was routed over the Kansas Oklahoma & Gulf to Dewar, Okla. and into Okmulgee over the Okmulgee Northern Railroad which road is owned by the Schock interests.

* * *

Jack Kennedy, of Chicago; H. J. Glade of Joliet, Ill.; and H. L. Parshall of Tulsa, all connected with the Parshall Oil & Gas Co. which has been operating in Wagoner county, have been spending considerable time in Okmulgee and will have some operations under way in this district in the near future.

* * *

The first radio-phone in a private residence here was installed in the home of Dr. J. J. Deaner, discoverer of the Deaner pool, during the past week. The apparatus is of a size and type capable of receiving messages, concerts etc., from a distance of several hundred miles.

* * *

Frank Kelsey, of Fort Worth, a former resident of Okmulgee has been visiting in Okmulgee for several days and says that he is coming back to Okmulgee to live as soon as he completes three wells now drilling in Texas fields.

* * *

Harwood Keaton, Okmulgee oil man and chairman of the Okmulgee County Central Republican committee is in Milam, Tenn., on a business trip.

* * *

H. Franklin Worley of Kansas City, formerly connected with the Commerce Trust Co., of Kansas City, Mo., is now in the oil business and is spending considerable of his time in Okmulgee. His offices are at 305 Gloyd Building, Kansas City.

* * *

Harry H. Hay vice-president of the Owenwood Oil Corp., of Fort Worth, who was taken ill with appendicitis at Okmulgee about a month ago has recovered from a recent operation and returned to his home in Fort Worth on March 10.

* * *

Irvin Fairbanks, chief scout of the Indian Territory Illuminating Oil Co., of Bartlesville has established headquarters in Okmulgee and will scout the Okmulgee district in the future.

* * *

"Red" Brann, one-time celebrated Yale football player is now working out of Okmulgee as scout for the Skelly Oil Co. He was assigned to the Okmulgee district on March 1.

* * *

Dr. J. C. Wilhoit of Kansas City, Mo., who owns considerable acreage throughout the Okmulgee district spent the past week in Okmulgee in conferences with associates here.

Webster Parish Gas Well Blowing Wild

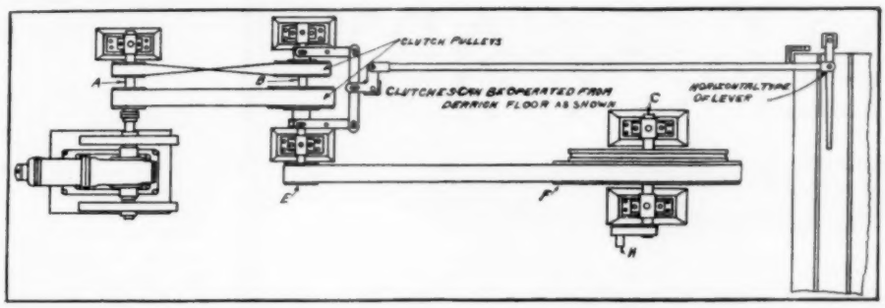
By Special Correspondent.

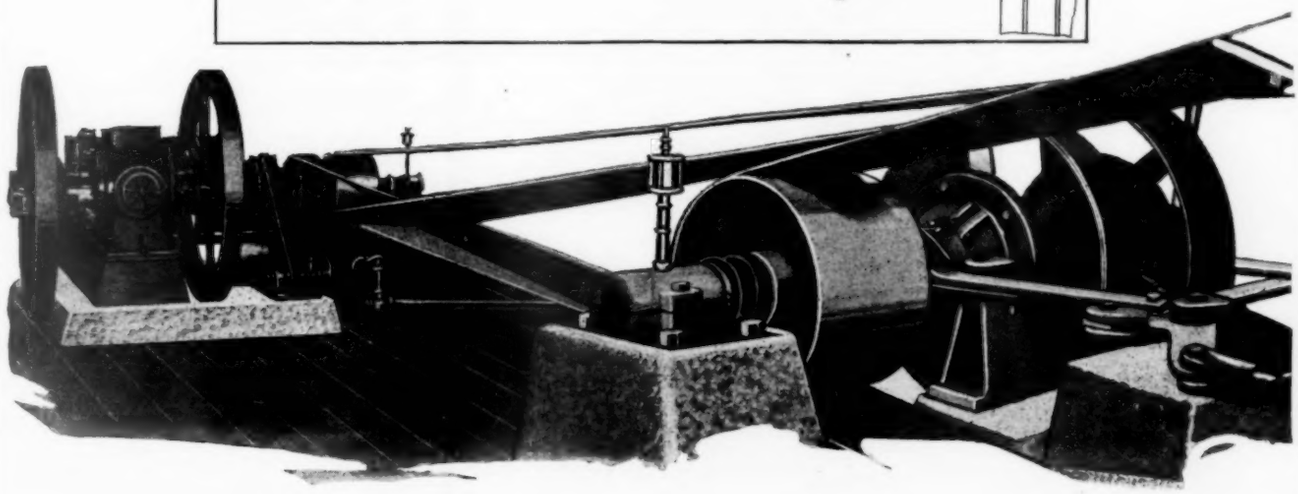
SHREVEPORT, March 11.—The parish of Webster, lying between Claiborne and Bossier parishes, both of which have proven oil fields, has gained fresh attention lately due especially to the operations in connection with the Lloyd Harris well, the Giles No. 1, in 24-23-11 near Sarepta, with capacity of at least 12 million cubic feet of gas, and the Gleason wells of the Louisiana Oil Refining Corp. near Cotton Valley.

The Giles No. 1 got beyond control by cutting first its six-inch and then its eight-inch casing, and is now blowing through two four-inch openings. The shriek produced by the roar of gas and water is thunderous and can be heard ten miles away in Cotton Valley. When the openings are closed the gas blows up around the outside of the casing and operators express the belief that nothing can prevent a repetition of the behavior of the Gleason No. 2 in 18-22-19, which went wild last August and formed a vast crater surrounding a geyser of gas, salt water and oil. The Giles well is not yet making any oil.

The Gleason No. 2 caught fire some days ago, due supposedly to some visitor dropping a lighted cigarette. The roar is reported to be deafening and the heat is described as terrific. The great crater is growing wider as the banks continue to cave. The well is down approximately 2,786 feet.

Drillers for the Louisiana Oil Refining Corp., working on the Gleason operations with J. K. Wadley of Texarkana, on land owned by W. T. Gleason of Cotton Valley, La., are engaged in drilling a relief well, only 132 feet from the burning No. 2, and hope to be able to kill the burning gasser from the bottom when the proper sand is reached, the relief well being down now about 2,779 feet. Every precaution has been taken to prevent the relief well from blowing in.





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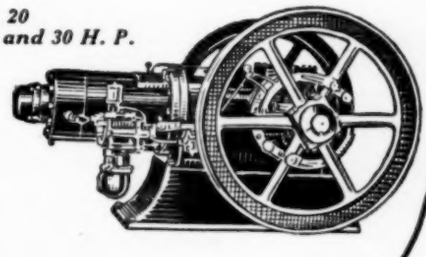

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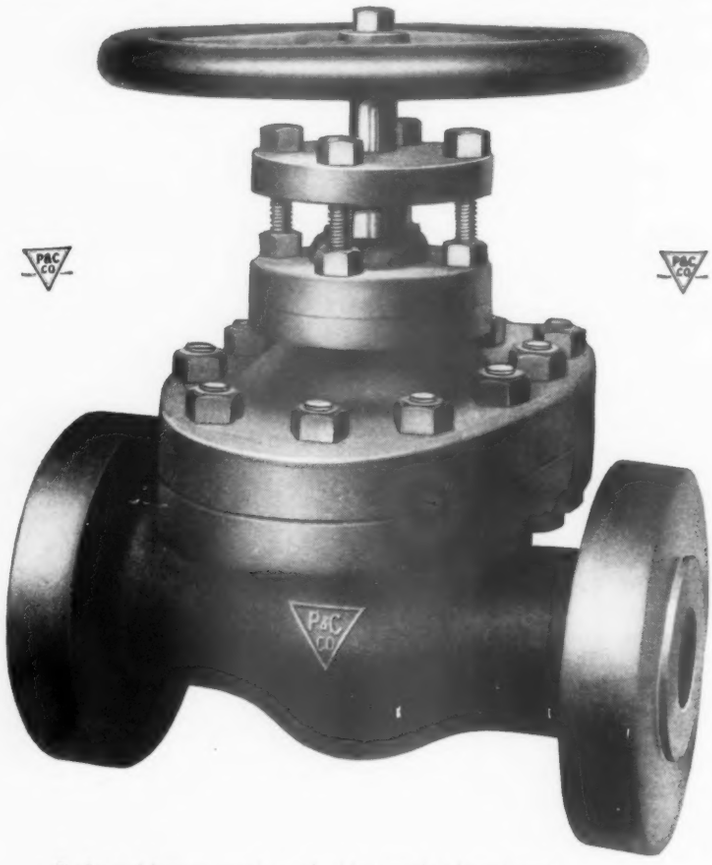

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Big Gas Line Program For Rocky Mountains

By Special Correspondent

CASPER, Wyo., March 10.—With the large amount of interest being taken by at least two companies in the construction of a gas pipe line from the Ferris, Lost Soldier and Mahoney dome districts of Carbon county, southern Wyoming, it has been estimated that the gas line projects of the Rocky Mountain region planned for this year would cost close to $16,000,000.

The laying of a line from Carbon county gas fields to Denver, a distance of about 240 miles, would cost about $10,000,000, it is estimated. The Midwest-Wyoming lines in northern Wyoming will cost close to $1,000,000. The pipe contract for this line or lines has been awarded to the Mark Manufacturing Co., the shipments to start on March 20.

The New York Oil Co. it seems has a good chance to land the job of taking gas into Denver through reported arrangement with Doherty interests controlling the electric light and gas utilities in Denver. The distribution would be through the Denver Gas & Electric Light Company should the New York build, it is understood.

The Ohio Oil Co. will spend about $500,000 in Montana and a like amount in northern Wyoming or gas lines, it is understood. Other northern Wyoming companies probably will spend close to $400,000 for gas pipe lines this year.

It is estimated that the line from Mahoney dome to Rawlins would cost about $400,000.

The proposed Riverton to Lander project would cost close to $300,000; Eastern Colorado lines will cost about $150,000 and northern New Mexico will see about $100,000 expended for gas pipe lines this year.

All of these proposed lines will result in a large increase in the natural gasoline business in this region. Gasoline extraction plants which would be built would cost more than $2,000,000.

Lucas Memorial Planned

Staff Special

TULSA, March 11.—At the recent Engineering Congress on the petroleum industry, held in Kansas City, it was announced by Arthur Knapp, of Philadelphia, that the American Institute of Mining Engineers had agreed to act as custodian of the funds to be raised for the purpose of perpetuating the memory of the late Capt. Anthony F. Lucas, one of the real pioneers of the oil game, and the driller of the discovery well at Spindletop.

This fund will be known as the Capt. Anthony F. Lucas Memorial, and will be in the nature of a foundation, through which medals will be awarded for meritorious achievements in any branch of the petroleum industry, the presentations to be made annually, or whenever such achievements occur. Complete plans have not as yet been formulated, nor has any effort been made toward soliciting contributions to the fund.

Second Butler County Test Misses The Sand

By Special Correspondent

LEXINGTON, KY., March 11.—The appearance of the territory at Rochester, Butler county, Ky., became poorer when the White Oak Fuel Co. drilled its No. 2 Barton past the depth where the No. 1 some months ago developed a small production. No. 2, which is 500 feet away from the first well, at last reports had drilled to a depth of more than 1,100 feet with no sand. No. 1 had its pay around 960 feet.

In Hancock county, one and one-half miles southeast of the town of Pellville, the Barlow test of Bert Thompson et al was shot a week ago with 30 quarts in 19 feet of gray sand. It had not been tested after the shot, but had been estimated at 15 barrels natural. Top of the sand was 726 feet and the total depth was 745 feet.

In the same county, Fred Hartman et al of Indianapolis, reported a showing of oil at 472 feet in their No. 1 Stewart, which is more than two miles south of Pellville. The same interests have temporarily abandoned their No. 2 Jett, which is three-quarters of a mile northeast of the Stewart. In the Jett well a good flow of gas was encountered which caught fire and held up drilling. The Stewart well is to be drilled deeper.

Obregon Denies He Has Employed W. J. Yarrow

LOS ANGELES, March 10.—As the result of letters directed by Los Angeles persons to responsible persons in Mexico City, it has been learned that Walter J. Yarrow, labor agitator and still holding the job of counselor to the oil workers, is not to go to Mexico as an employe of that government to develop its oil lands.

This correspondence was instituted following a statement in the press by Yarrow that he had been engaged by President Obregon to open up oil lands, that he was to bring 1,500 men with him and that the properties were to be operated on a socialistic basis. At the same time correspondents here informed their friends in Mexico concerning Yarrow, giving them some facts to lay before President Obregon should he have been led into such an arrangement as Yarrow said had been made. The following telegram from Mexico puts the quietus on the Yarrow yarn.

"President Obregon says he has no knowledge of the reported coming to Mexico of Walter J. Yarrow, strike leader and advisor to oil workers, to accept an offer said to have been made by the President and his cabinet to work in Mexico. The Department of Labor also was without information regarding Yarrow's reported coming in a government capacity."

LAWRENCEVILLE, ILL., March 11.—The runs of the Indian Refining Co., from Kentucky counties, was as follows in February:

	Feb.	Jan.
Lee, Estill and Powell counties.	64,107.82	70,152.85
Allen county	39,951.06	28,173.36
Warren county....	51,987.81	60,062.45
Totals	156,046.69	168,388.66

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Pugilism An Aid To Drillers In Old Oil Fields At Bradford

By D. A. Dennison
SPECIAL CORRESPONDENT

A mantle of romance hangs about the history of the early development of the oil industry in the Pennsylvania fields and about the pioneers who were the actors in this great drama. D. A. Dennison, for many years an editor of oil publications, in a series of stories written for NATIONAL PETROLEUM NEWS, has drawn back the curtain and revealed the settings of the early stage. In the accompanying article he tells of the rough and ready characters that were to be found in and about Bradford, and also others who became the stalwarts in this industry and affiliated businesses.—Editor.

BRADFORD, PA., March 9.

ONE OF THE numerous notorious individuals attracted to the oil fields of western Pennsylvania, following the completion of Drake's discovery well, was Ben Hogan, a pugilist. He had a saloon in Titusville for a time, later going to Pithole and branching out as dance-hall proprietor. He conducted resorts in other oil field towns and finally established himself in a houseboat which was moored for a time at Parkers' Landing, an Allegheny River oil town of the early days.

Hogan's floating joint was about the limit in the matter of iniquity and led to the writing of a book on Hogan's life in which he was designated as the "wickedest man in the world"—that also was the title of the work. Hogan derived some money form sales of the book, which had been written by a newspaper man. When Ben came to Bradford after the opening of the boom here he located at Tarport in a hemlock building where he sold much liquor and entertained his patrons with music, dancing, impromptu pugilism and general hilarity of the kinds which police are expected to supress. Ben acted as his own "bouncer" and when a customer became obnoxious Hogan made short work of him.

Establishes Mission

He continued in business for a time at his local stand and then went west. Wandering into a religious meeting in Chicago, on an occasion, he suddenly realized that he was bad and his conversion followed. He became an exhorter in the slums and established a mission house for down and out castaways of both sexes, accomplishing good results. He visited Bradford while engaged in this work and held meetings at Orpheus Hall. His sermons were characterized by slang that would make Billy Sunday's rhetorical style look rather puny. A few years ago Hogan died.

George Coyle, well worker, was for years noted in the oil fields as free for all, rough and tumble champion. He was a giant in size and, when sober, was not quarrelsome. When under the influence of liquor he would fight with or without provocation and in numerous cases was known to put several combatants out of commission in one attack. This sort of feat on his part led to disaster. A crowd of assailants beat him up so badly that his death followed.

Puglistic prowess in the early oil period was a very desirable quality in an oil worker, as there were many occasions in which physical force was necessary. The latter-day method of settling disputes by means of revolvers was not popular back there in the olden times. Lease-line contests were fought with much enthusiasm in certain instances and to the holding of possession much importance was attached. Drillers were required, also, to keep away the inquisitive oil scouts from mystery wells, and strong-arm methods were in order. The average driller, however, was the best natured chap imaginable. To his personal credit, generally, much may be set down.

Center of Tool Supply

For a number of years Bradford held leadership in the number of oil tool manufacturing plants. Boyaird & Seyfang, John Ley, Brown & Norris, David Phillips, Dan Robertson, the Oil Well Supply Co., Frank Hamilton, W. C. Walker and others, employed large numbers of men and supplied material for field work in America and foreign countries. A number of these plants are still in business here. S. G. Bayne was identified with oil field supply trade and in a diminutive place of business on Main Street, which he called Power Hall, he booked so many orders that he became wealthy. He has for years been a millionaire banker in New York. Bayne, a university man, wrote the most attractive advertisement known to the trade in those former days. He was among those who introduced the taper joint for drilling tools. "The joint with the vanishing thread," is how he described it in his "ads." He is an author of several books.

John McKeown, who as a boy came to America from Ireland, started without a penny. He operated in different regions, his chief successes being credited to the Bradford field. He left an estate valued at $10,000,000.

"Farmer" Dean was a notable figure in the business. He was prominent as a producer and, as a side-line, was a Greenback party spellbinder. David Kirk was also a political celebrity in the early days. He was vehemently opposed to the big interests and always spoke in behalf of the Independent oil men. Yet, when he was a candidate for Congress in this district he was not elected. Lewis Emery, Jr., was easily the leading factor in oil and politics in this district for many years.

Oil Helps Start Bank

Peter Kennedy, brother of W. C. Kennedy, prominent producer, was one of the first to attain prominence in the millionaire class through oil operations in this field. He and O. F. Schonblom established the Bradford National Bank. Tom and Sam Kennedy, sons of the former, are identified with the bank and have large oil interests. Harry Schonblom, son of Peter Kennedy's partner, also is connected with the institution. Two other thriving banks are the Commercial and First National. Formerly Charles H. Lavens, one of the most popular of Pennsylvania oil men, was president. For a long time he was connected with the Urquhart brothers in oil operations.

Captain J. T. Jones, who had much to do with opening the Alleghany county (N. Y.) oil field, had his headquarters here many years and amassed an immense fortune. P. M. Shannon, noted as an oil man, who was actively identified with the opening of the Wyoming oil field, was a mayor of Bradford for one term. J. R. Goldsborough, oil man and leader of protective movements in behalf of the Independents, was prominent here many years as were John P. Zane and C. B. Whitehead. Whitehead was postmaster for a time. Zane was a progressive in politics, business and sociology. He was in favor of single tax and brought Henry George here to explain the tenets of his economic faith. Zane also was responsible for the appearance here of Dr. McGlynn, a famous advocate of the rights of the working classes.

Eugene Mullin and P. R. Cotter, two oil region attorneys, were famed in their time here as brilliant orators. Rufus B. Stone, also a lawyer of the olden days, is still practicing his profession in Bradford.

Sailor Becomes Capitalist

Charles P. Byron was a sailor in his youth. He was several times shipwrecked and had many adventures. Becoming tired of the sea he came to the oil fields, began at the bottom and worked up. Production in the Bradford district placed him in the capitalist class. A somewhat like experience in acquiring a fortune here was that of the late Arthur McGregor. Eugene Whitcomb, natural gas and oil magnate of Pittsburgh had his start in Bradford. He was closely identified with T. N. Barndall, another Bradford oil pioneer already mentioned in these reminiscences. Tom Donoghue, one of the big men of the Texas Co., with Houston headquarters, grew up in Bradford. Martin Moran, head of The Texas Co. in Oklahoma, was a gauger in the Bradford field. Will F. Broder, known everywhere in oil and gas circles, was born and reared here. His father, James Broder, was Bradford's first mayor. Clint Moore and John Larkin, two of the directors of the Exchange National Bank, Tulsa, Okla., were formerly of the Bradford field. Moore was a pipe line man at Coleville. Larkin was a Bradford letter carrier. The Fitzgibbon brothers were Bradford ore men. A son of one of the brothers is John Fitzgibbon, lawyer, member of assembly and oil man who lives here. Harry Gaffney, Bradford producer, has petroleum properties in many fields. Also he has other interests including a lumber business at Buffalo, N. Y., a partner being James Horrigan, former Bradford boy, famed for years for his "Tramp Juggler" act on the vaudeville stage of the United States, London and Paris. "Billie" Burns, retired gasoline manufacturer, of Tulsa, Okla., formerly lived in Bradford. C. R. Huntley, one of the leading business men of Buffalo, N. Y. obtained his start here. Franklin, Pa., headquarters for lubricating oil, claims to be a "nursery of great men." Well, it may be. But Bradford has a record as the starting place of more successful oil men than any other town of which I have knowledge.

History Of Texas Producing Fields—Relation To Estimated Reserve

HOUSTON, March 4

THE rise of Texas to the rank that it now occupies as an oil-producing state is sufficient reason for the interest now being attached to its possibilities of future production. Any estimates of the remaining petroleum reserves within its total area must be based upon two specific predicates. One of these is the history of its developed areas. The other takes into consideration the geologic provinces existing and their relation to known conditions.

Always there exists the possibility that hitherto "undiscovered" conditions may work to the end of upsetting, at least in part, speculative deductions which can be based only upon known conditions and which must—necessarily—leave out of account those things which may be factors of the future but which for the present it remains for the drill to discover.

Notwithstanding these limitations, however, it is possible for workable data to be obtained and to be so set up that it gives at least an idea of what may be expected in the future. With this in mind, **National Petroleum News** presents a brief tabular history of the fields of Texas, divided into geological provinces, showing what their production has been to date, their present daily average output, number of wells currently producing, etc.

History Compared with Future

Compared with the United States Geological Survey's figures for 1922, estimating petroleum reserves in Texas, the history of developed fields shows production to Jan. 1, 1922, to have been as follows:

	Production to 1-1-22 in Millions of Barrels.	Estimated Reserves in Millions of Barrels.
Gulf Coastal Texas	391.9	2100.0
Coastal Louisiana	64.6	
Texas, except Coastal	298.9	670.
	905.4	2770.

Coastal Texas and Louisiana are necessarily considered together because of the nature of the saline dome area, which is thus denominated rather than being designated as a geological province. The remainder of Texas is divided into zones, representing geological provinces, and the history of each is set forth for whatever value it may have to the student of the operating possibilities and the petroleum reserves of the future.

It will be noted that Gulf Coastal Texas and Louisiana are not referred to in terms of either possible acreage or potentially productive square miles of territory. This treatment is necessary for the reason that the Coastal belt cannot be worked out in terms of acreage or square miles. It is necessary in dealing with this area to take into account the number of saline domes that have been in the past productive and the number remaining (both of known domes and those presumably hidden under the surface) for exploration.

Many Salt Domes Remaining

As compared with a total of some 20-odd saline domes that have yielded more or less petroleum in the past, fully 50 are known to exist. It is reasonable to suppose, according to a number of recognized authorities, that not more than 90 per cent of the salt domes in the Coastal belt have been found and they

Gulf Coast Field History And Estimated Reserve

Division-Pool.	Date of 1st well.	Prod. Wells, Feb., 1922.	Daily Prod.	Total Prod. in Mils. of Bbls.
TEXAS COASTAL SALINE DOME AREA—				
Spindletop	1901	226	780	47.3
Sour Lake	1901	543	3,425	60.6
Batson	1903	583	1,375	30.8
Saratoga	1902	426	1,890	22.4
Humble	1904	426	7,025	87.7
Goose Creek	1908	219	11,900	36.2
Cow Bayou (Orange)‡	1920*	26	8,775	.8
Markham		27	125	2.8
Damon Mound	1917	32	2,730	3.5
Hull	1918	119	15,275	14.9
Barber's Hill	1919	4	420	.4
West Columbia	1917	104	42,100	31.4
Dayton	1905	9	175	.5
Blue Ridge	1919	18	910	1.2
Pierce Junction	1921	17	6,275	1.4
Total		2,779	103,180	341.9
LOUISIANA COASTAL SALINE DOME AREA—				
Jennings	1901	25	400	41.7
Vinton	1910	60	3,000	16.8
Edgerly	1913	22	410	6.1
Anse La Butte	1902	4	100	.....
Welch	1902		.....	.....
New Iberia	1917		.....	.....
Total		111	3,910	64.6
GRAND TOTALS		2,890	107,090	406.5
U. S. G. S. estimate in 1922 of reserves in millions of barrels				2,100.0

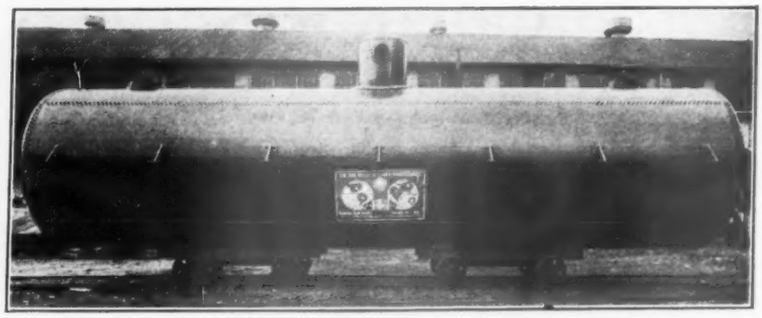
*—4,000-foot pay "discovered" in 1922.
‡—Terry Production in Orange County, 1 well in 1913.

Other Texas Fields—Future Production Data

Geology-Pool	Date of 1st well.	Prod. Wells, Feb. 1922.	Daily Prod., Feb. 1922	Prod. Area, Sq. Mi.	Possible Area, in Sq. Mi.	Total Prod. in Mil. Bbls., 1-1-1922
UPPER CRETACEOUS—						
Somerset	.....	183	1,610	.....	.....	.9
Thrall	1914	43	140	.....	.....	1.3
Mexia	1920	167	151,000	.....	.....	7.7
Corsicana-Powell	1896	738	800	.....	.....	12.8
Total		1,131	153,550	150*	48,000	22.7
UPPER PENNSYLVANIAN—						
†Burkburnett, Old field, 7-8-12; Townsite, 7-29-18		4,114	39,105‡	.....	.....	.....
†Electra Apr. 1911		1,732	12,125	.....	.....	144.2
South Bend 11-24-19; Bunger, 8-9-21		161	9,830	.....	.....	2.9
†Petrolia Mar. 1905		487	315	.....	.....	3.6
Moran		21	245	.....	.....	.5
Brownwood		241	615	.....	.....	.9
Strawn		180	1,150	.....	.....	1.6
†Archer County, 12-2-16		402	1,425	.....	.....	.5
Total		7,638	64,810	2,500*	47,000	153.2
BEND SERIES—						
Stephens County	1918	1,151	52,100	.....	.....	66.2
Eastland County	1917	1,165	12,950	.....	.....	41.6
Comanche County	1918	404	4,215	.....	.....	14.9
Total		2,720	69,265	1,500*	60,000	122.7
PERMIAN—						
Carson County	1921	1	155	.....	.....	.....
Mitchell County	1920	4	100	.....	.....	.....
Toyah Basin	1920	?	50	.....	.....	.....
Total		5	305	!	97,000	!
EOCENE—						
Nacadoches	1893	?	225	?	.....	.2
Zapata County	1916	12	500	3	.....	.05
McMullen County	.....	?	60	?	.....	.05
Totals		!	785	!	.....	.30
LOWER CRETACEOUS—						
None	.....	.....	.....	.....	62,000	.....
TOTALS		11,506	288,715	4,153	314,000	298.9
U. S. G. S., 1922, estimate reserves in millions of barrels						670

‡—Includes K-M-A and Iowa Park, also Northwest Extension pools.
†—Some authorities classify as Permian.
!—Nominal.
*—Estimated, round figures.

HAMMOND SPECIFICATIONS



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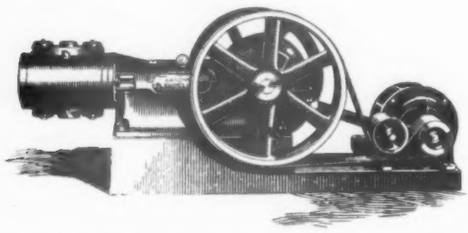

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point to Orange and Goose Creek especially as two developments believed to be of this character but in neither of which has the drill proven the actual existence of the dome. Others contend that Orange and Goose Creek are arrested monoclines, the accumulation resulting in each case from the sealing action of a fault.

It is because of its own peculiar conditions and the further fact that oftentimes a small spot (ranging from 50 to 150 acres) may be the only part of a salt dome to prove productive—though of tremendously great quantities of oil—that the United States Geological Survey estimates have given the Coastal area credit for the possibilities forecast in the 1922 estimate of petroleum reserves. The finding of this oil, and its working out into above-ground channels, is another matter and one which may require generations to accomplish.

Actual Producing Area Small

The producing area in salt dome development of the Coastal region is shown for a number of pools in the following table:

Pool.	Acres
Spindletop	265
Sour Lake	450
Batson	477
Saratoga	450
Humble	2,225
Hull	974
West Columbia	140
Blue Ridge	50
Pierce Junction	50
Jennings, La.	142
Vinton, La.	140
Edgerly, La.	76
Total	5,439

Yet these 5,439 acres have produced more than 362 million barrels of the total output accredited to Gulf Coastal saline dome territory. No differentiation is made in the present compilation as between the cap-rock levels of Texas and Louisiana salt domes and the deeper production from sand beds at depths ranging between 2,000 and 4,000 feet. It may be said, however, that principal Gulf Coastal production prior to 1912 was from cap-rock levels and was generally of flusher propensities than that found in the sand horizons down the sides of the domes.

History of Geological Provinces

It is of considerable importance to the industry generally in considering the geological provinces of Texas that are treated upon and which lie outside of the Gulf Coastal belt that the student of petroleum history in the state should take into account that except for the shallow level production at Corsicana, the Mexia field of Limestone county was the first important development within the confines of the Upper Cretaceous geological province, except where the Caddo, La., field extends across the state line into Marion County. Both Thrall and Somerset were small pools of little commercial interest generally.

Corsicana was more significant for its being the scene of the first commercial oil produced in Texas, rather than for the quantity of crude it has given up. It is also of some interest in this connection to point out that of the upper Cretaceous group of pools, Mexia is the only one producing from the Woodbine sand horizon. Others are productive in overlying formations. It is not improbable that the lower Cretaceous formations may be productive also at points where it is within easy reach of the drill

although to date no commercial production in Texas has been credited to that province, except that a dozen or so wells yielding some 50 barrels daily produce at South Bosque, in McLennan county. Eocene production also has been negligible, as has been also the case with the Permian province as herein shown. Some authorities, however, contend for the placing of Electra, Petrolia, Burkburnett and Archer county in Permian rather than upper Pennsylvanian classification.

Principal Texas production outside the Gulf Coastal belt, has come from two geological provinces, i. e., the Upper Pennsylvanian (unless the foregoinig pools are classed as Permian), where sand wells have given up the greatest quantity of crude petroleum to come from any single area; and, the Bend Series, of Mississippian and Lower Pennsylvanian age, which embraces the Central Mineral Belt (general Ranger black lime territory). Together they have produced nearly 267 million barrels of the roundly 299 million barrels exploited from the whole of Texas outside the Coastal belt.

Geological Provinces Overlap

The writer has found it necessary in reaching a basis upon which to estimate the possible producing area in Texas in square miles to take into account as much of the recognized thought in the industry as it has been possible for him to canvass. The figures used do not represent the actual number of square miles in the state of any given geological area, but are calculated to give a fair idea of the territory where possible production is within reach of the drill or where the area is not condemned for recognized reasons at levels near the lines of outcrop.

It will be apparent that the total of 314,000 square miles does not represent surface area, necessarily; for the reason that overlapping geological provinces will duplicate parts of the surface area. In cases where production is coming from both sand and lime levels, such as parts of the Central Mineral Belt, this is especially true.

Engineers Told Of Oil Refiner In Auto Motor

CHICAGO, March 9.—The March meeting of the Chicago members of the American Society of Lubrication Engineers was held March 5, at the rooms of the Chicago Engineers' Club. W. M. Parish, lubrication expert and president of the society, read a paper dealing with the dilution problem which confronts the automotive and petroleum industries. Mr. Parish stated that the problem has just been solved by the use of an oil refining system which operates as part of the motor unit and which continuously filters the oil while a car or tractor is in operation, removing contaminating gasoline and foreign matter and cooling and returning to the crank case the purified lubricating oil.

It was decided that the society would hold a dinner meeting on the first Friday of each month. Non-members desiring to attend these dinner meetings, will be welcome to do so and can obtain details from the secretary in the Monadnock building, Chicago.

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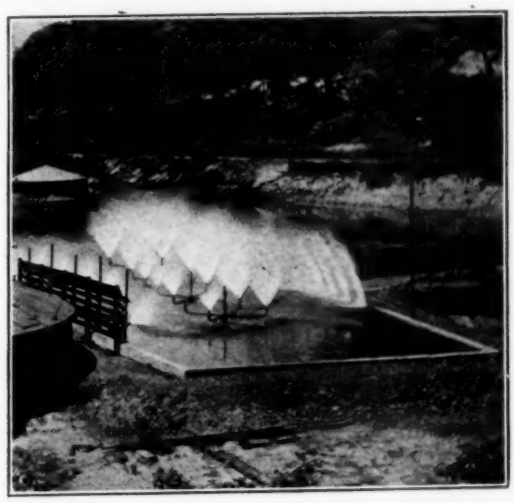

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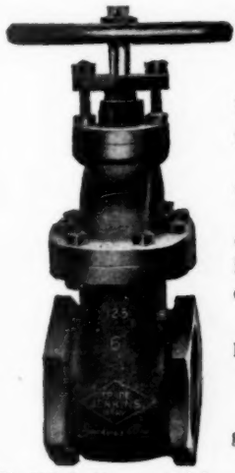

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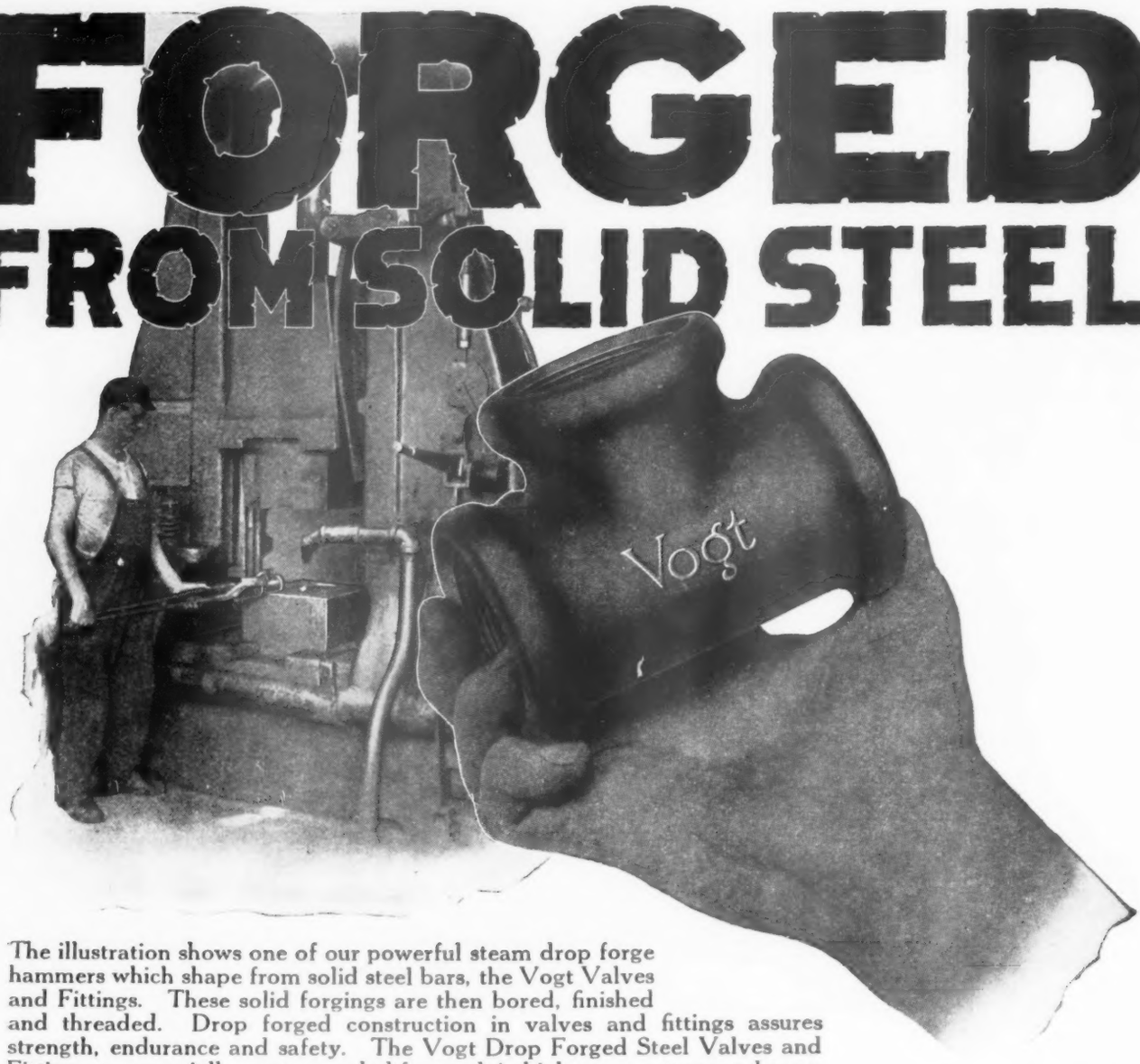

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Production Of Eastern Fields Shows Little Change Over Year

Staff Special

CLEVELAND, March 4.

THE recent estimates of the joint committee of the American Petroleum Geologists Association and the U. S. Geological Survey on the remaining crude oil, lends interest to the present situation of the eastern fields, estimated to hold reserves totalling 1,435,000 barrels.

Ohio rated as holding reserves of 190 million barrels, produced in 1921, 7,333,000 barrels, only 79,000 barrels less than in the previous year. Its production held steady throughout the year, in spite of greatly decreased drilling.

The Lima field of Ohio was credited in January, 1922, with a daily average production of 4,710 barrels while the rest of the state, classifying as central and southeastern, produced daily 11,774 barrels.

Of the Lima production in Ohio, the Buckeye Pipe Line Co., ran in January 98,452.93 for a daily average of 3,175 barrels. The remaining 1535 barrels is handled by Independent companies, the Paragon Refining Co., the Sun Co., and National Refining Co. are getting a share of this amount.

The rest of the state classifies as Pennsylvania, Corning and Wooster crudes and totals 11,774 barrels daily average for January. Of this around 3000 barrels is Corning grade, The Wooster grade, including the approximately 1,000 barrels which comes from the Lodi field of Medina county, totals about 2,200 barrels. The rest of the production commands Pennsylvania grade price and comes, for the greater part from the Clinton sand.

Division of Indiana Crude

Indiana is assigned a reserve of 70 million barrels, this being inclusive of Michigan. Present appearances of the latter are unpromising and whatever production ultimately comes from there will be in the nature of small, widely separated pools. Near Deerfield, in Monroe county where persistent attempts have been made to obtain production, a well of the W-K Oil Co., which is composed of local capital, is now pumping about three barrels daily, pumping twice a week. A number of dry hole failures surround this.

Production of Indiana as a state in January averaged 2839 barrels. Of this 260 barrels came from the Shelburn pool, Sullivan county, in the southwestern part of the state; from the northeastern part of the state, or the old Lima territory and the small scattered pools throughout the northern part of the state and the southwestern part of the state embracing Hazleton, Oakland City, Princeton, Oatesville and Petersburg, is rated for 2250 barrels, although the indicated production in January was about 2,000 barrels.

It is the southwestern part of the state that holds most promise and during the past year good production has been developed in Gibson and Pike counties.

Illinois reserves are estimated by the committee at 440 million barrels. Production at this time is 29,800 barrels daily. It is divided practically as follows:

	Barrels Daily
Casey, Robinson and Bridgeport	29,060
Sandoval and Carlyle	500
Waterloo	115
Plymouth	150
Carlinville	2

The outstanding interests, under such a contingency, are a constant cause for vigilance because of the danger of the so-called "coyote" companies "squatting" upon sections of the lands. Before and after drilling operations are begun, therefore, it is not infrequently necessary for the company exercising control over a lease to maintain guards and otherwise protect itself.

The bulk of production, it is seen, comes from the oldest territory while the newest field, the Waterloo pool of Monroe county, in southwestern Illinois, is down to a negligible figure. This pool may be taken as indicative of what will happen when other small fields are brought in in the western part of the state. A number of promising looking structures have been found and stand a good chance of being productive from the Trenton lime which produces at Waterloo, the pay there being found at less than 500 feet depth. The Waterloo pool was characterized at its inception early last year by flush wells which declined rapidly. It was the scene of an intense drilling campaign and was not economically developed.

Two other areas of Illinois hold promise of small production now. One of these is in the Decatur region in central Illinois where a small well was recently drilled in, the Niagaran lime being the pay here. It serves only as an indication of possible production. South of Centralia, which is south of the Sandoval-Carlyle region, several wells of unknown worth have been drilled and will soon be put on the pump. Besides these, a well drilled to the Trenton in the old Casey shallow field holds some promise of production from this formation.

Illinois production varied but little over the past year, the total for the year being 10,044,000 barrels as compared with 10,772,000 the previous year.

West Virginia produces oil of two classifications: Pennsylvania grade and Cabell. The former takes care of a certain amount which is of higher quality than the average of Pennsylvania crude and which commands a higher premium. This refers especially to the higher grade produced in the Cabin Creek pool.

Production in the state during January averaged 17,710 barrels daily. This is under the average of around 21,000 barrels daily. The Cabell grade is unimportant, amounting to only 40 barrels per day, the rest being of the Pennsylvania grade. Standard interests get about 16,000 barrels of the total, the remainder being refined in the state.

West Virginia production, like that of most of the old producing states in the east, showed little variation from month to month the past year and totaled for the year 8,003,000 barrels against 8,173,000 barrels for 1920.

Pennsylvania Varies Little

Pennsylvania is, of course, a purely production proposition now and no new pools of any consequence are looked for. Attention is centered entirely upon recovering the maximum amount of oil within definite fields, and the way this is working out is shown by the figures of the past two years for the total production in the state: 1921, total, 7,434,000 barrels; 1920, 7,454,000 barrels, a difference of only 20,000 barrels during the entire year. The daily average in January was 17,452 barrels, representing a loss from what can be called the normal production of about 20,000 barrels. The increase can be easily effected once the demand for the oil reaches the point of increasing the price.

New York increased her production last year, the total being 980,000 barrels against 906,000 barrels the year before. This is Pennsylvania grade oil.

The increase was effected by the growing use of the water-drive method of increasing recovery and not to any new territory. This state, it is conceded, holds little further possibility except from defined areas. At the end of January, of the 2516 barrels daily average, the New York Transit Co., was moving out about 480 barrels and the rest was going to the Wellsville Refining Co., subsidiary of the Union Petroleum Co., and the Vacuum Oil Co.'s plant at Olean.

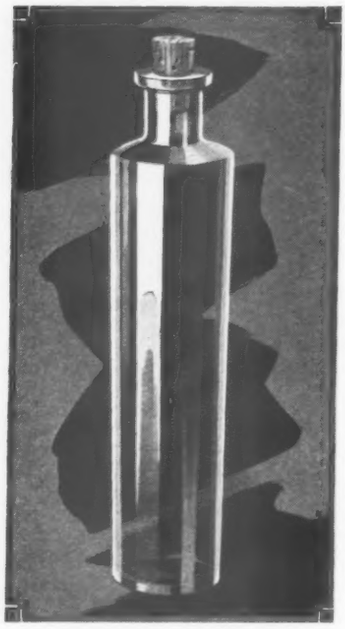
Kentucky production by counties is made a matter of public information each month by the Kentucky Oil Men's Association, through the records of the state in collection of taxes. In the estimation of reserves, it is given place with Tennessee, northern Alabama and northeastern Mississippi and is assigned 175 million barrels.

Production during the past year is given by the U. S. Survey at 8,950,600 barrels; by the Kentucky Oil Men's Association as 9,080,845 barrels. For the previous year, the survey says the production was 8,679,900 barrels and the association places it at 8,552,877 barrels. They agree on the approximate amount of the increase.

In daily averages, the survey places Kentucky in January at 22,774 barrels while the association says it was 22,249 barrels daily.

Predicts Decline in State

A recent report issued without comment by the Cumberland Pipe Line Co., and made up of statistical data arranged by Willard Rouse Jillson, state geologist of Kentucky, predicts for the eastern part of the state a fairly rapid decline over the next two years. It does not get into the value of western Kentucky, where the Cumberland has no lines, and the methods used have been criticised by certain producers in eastern Kentucky, who argue that Dr. Jillson has not used representative properties in arriving at his predictions. Dr. Jillson is careful to point out that he has made no allowance for such conditions as the discovery of



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new pools, but has taken as his basis the known volume of business done by the Cumberland Pipe Line Co. up to Oct. 1920.

In his estimates of production for all eastern Kentucky, Dr. Jillson estimated 1921 at 6,489,224 barrels. Taking the figures of the association, the total was 7,338,197 barrels. Dr. Jillson's average monthly production for 1921 he estimated at 530,000 barrels. Association figures show that December's production from eastern fields of the state was 587,358 barrels. This must not be taken as a final figure, however, for the reason that eastern Kentucky properties, particularly in the Big Sinking, were not produced to their capacity. Certain operators, including the largest one in the field, adopted the policy of pumping only line wells. The estimate made by Jillson for 1922 is 450,000 barrels monthly and 1923, he estimates the production will be at the average rate of 380,000 barrels monthly.

Warren and Allen county constitute the bulk of Western Kentucky production and will continue to do so, as far as the next year or two are concerned.

Filled Oil Contracts; Builds For Standard

By Special Correspondent

LOS ANGELES, Feb. 27.—Twenty years ago when the great Kern River oil field of California was young and the market price of crude was almost the lowest in the state's history, oildom was startled by the announcement that the Peerless Oil Co., operating on 160 acres, had signed a contract with the Standard to deliver 9,000,000 barrels of oil, from its production-to-be, at 20 cents a barrel! Predictions were freely made that the contract could not be and would not be filled, for the production, by pumping, at that time was about 35,000 barrels a month, and there had not been up to that time sufficient production from the field to establish its longevity. The contract was carried out nevertheless.

This famous contract was negotiated by John M. Wright and H. C. Park, president and secretary, respectively, of the Peerless. It also made good dividends for the stockholders, which were materially enhanced in later years when the property was sold to an Arizona copper company for $1,500,000.

Now here is a fitting climax to this story which claims to demonstrate how some men's nerve and integrity is sometimes rewarded—men who are determined to abide by the terms of a contract they have signed, let profits be nil if it so happens.

President Wright of the Peerless is dead. Secretary Park continues to be an active San Francisco business man. He is a member of the Lindgren Co., engineers and building contractors that is erecting the 20-story Standard Oil Co. office building in the bay city, the mighty monument to California oil.

When the Standard selected from among other contractors, without calling for bids, the Lindgren Co. to execute this big job, did it have in mind the "peerless' spirit displayed in carrying out an irksome contract? Construction work on the new home of the Standard is now proceeding.

Commercial Production Not Likely To Be Developed In North Carolina

By Joseph Hyde Pratt

DIRECTOR, GEOLOGIC AND ECONOMIC SURVEY, NORTH CAROLINA

Recently published estimates made by the joint committee of the American Association of Petroleum Geologists and the U. S. Geological Survey credit the Eastern Gulf Coastal Plain and the Atlantic Coastal states with reserve of 10 million barrels. No oil has yet been developed in this area. The following statements made for NATIONAL PETROLEUM NEWS set forth the opinions of the state geologists of North and South Carolina on possibilities in their states. Neither has been seriously regarded, although several tests have been put down, those of most recent date being two near Summerville, Dorchester county, S. C.—Editor.

WHILE it cannot be stated positively that petroleum will or will not be found in commercial quantity in North Carolina, there are many reasons which indicate that commercial supplies of oil will not be found in this state.

There are two general sections of the state that have been under discussion for some time as being favorable locations for finding oil: (1) the Coastal Plain formations of eastern North Carolina; and (2) the narrow belts of Triassic rocks near the border of the Piedmont and Coastal Plain regions of the state.

1. In the Coastal Plain region, which covers approximately the eastern third of the state, the strata of the sedimentary formations are lying nearly flat and have not been subjected to sufficient buckling or folding so as to produce anticlines and domes in which the oil could accumulate if it did exist in the strata. Then again, in this same region there have been a great many wells sunk for artesian water varying in depth from 50 to 1543 feet. The survey has a record of over 500 wells that have been drilled in this coastal Plain region, many of which have penetrated the sedimentary strata and entered the basement crystalline rocks. The basement rock was encountered at varying depths according to the location of the well in the Coastal Plain region. Near the border of the Piedmont region basement rocks are encountered in a few feet, and toward the east the depth varies until at Southport these rocks were not encountered until a depth of 1540 feet was reached.

In none of these wells is there any authenticated record of any oil or gas having been encountered. On the other hand, practically all of them have produced first-class drinking water.

There has been no authenticated record of the seepage of any crude petroleum in any part of this Coastal Plain region.

For the reasons given above, it is not believed that crude petroleum in commercial quantities will be found in the Coastal Plain strata of North Carolina. Several companies have been organized to drill wells in the Coastal Plain region of North Carolina, including the Hampton Roads Oil & Development Corp.; the Virginia-Carolina Oil Drilling Corp.; and the East Coast Drilling Corp.; all of Norfolk, Virginia. The East Coast Drilling Corp. has sunk three test wells on Church Island in Currituck Sound, Currituck county. These wells were from 400 to 900 feet in depth. This company has kept a log of these wells and report that the various samples which they have kept have been treated with ether and some of them show traces of oil. The engineer for the company is Bruce C. Banks of Norfolk.

The former two companies have holdings in Onslow county and have been obtaining options in Beaufort, Tyrrell and Hyde counties of land lying between Pamlico and Albemarle Sounds. Mr. Banks is also their engineer.

All of these companies in advertising offer their securities as speculative, and state that it is only by sinking the deep wells that it can be definitely proved whether or not commercial oil occurs in these strata.

2. An area of the Triassic rocks of North Carolina, which include the coal measures of Lee, Moore and Chatham counties, was recently examined by M. R. Campbell of the U. S. Geological Survey, as to the available amount of coal that they contain. During this examination attention was also given to the possibility of obtaining petroleum from these rocks, but all the facts learned indicate that the chances of finding commercial oil are very slight indeed.

One company, the Apex North Carolina Oil Co., has several options on lands at Apex in Wake county. On this land, which is in the Triassic rocks, a well had been sunk for drinking water and crude petroleum was reported to have been found in it.

Time, Money Lost In South Carolina

By Stephen Taber

STATE GEOLOGIST

PROSPECTING or oil has been carried on in several sections of South Carolina during the last few months and in most instances that have been brought to the attention of the state geologist, the money spent in prospecting might as well have been thrown away. Oil has never been found in commercial quantities in old crystaline ricks such as the granites, gneisses and schists which occur throughout the Piedmont region of South Carolina, and from what geologists have learned concerning the origin and accumulation of oil in rocks, it is hopeless to search for oil in these formations.

Nevertheless, considerable prospecting for oil has been done in this state.

The sedimentary strata of the Coastal Plain are suitable for the occurrence of oil, but no evidence that would indicate its presence, even in small quantities, has as yet been discovered, in spite of the fact that these formations have

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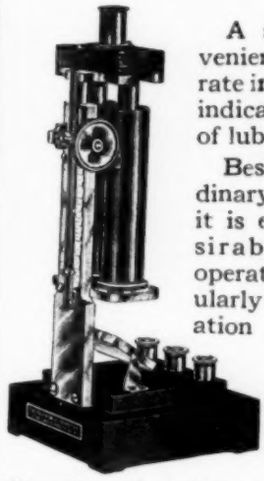

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been prospected at many points in drilling artesian wells.

The surface evidences of the presence of petroleum which are most easily noted by the average layman are the seepage of oil or natural gas and the presence of petroleum or bituminous material in outcrops of sand; but other substances are very frequently mistaken for oil. For example, an iridescent film consisting of oxides of iron, which often forms on the surface of water that is allowed to stand, is the most common cause for reporting the presence of oil in South Carolina.

No facts indicating the presence of oil in South Carolina are known and there are very good reasons for doubting its existence in commercial quantities. There are valuable mineral resources in the state which should be developed to a greater degree than is being done at present, but oil is not one of them. If more money were spent in developing our clays, marls, granites, etc., instead of wasting it in oil speculation the industrial advancement of the state would be more rapid.

Standard Files Brief In Arkansas Tax Case

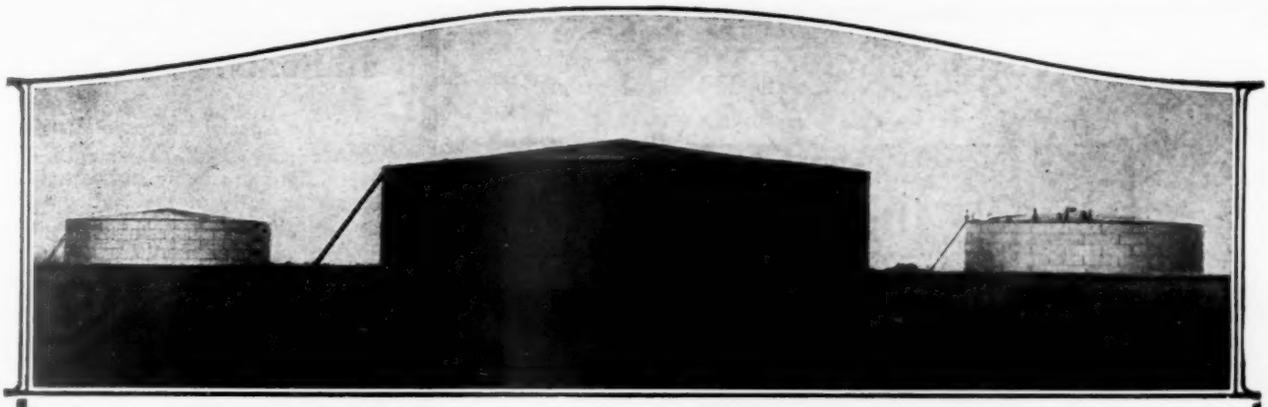
LITTLE ROCK, ARK., March 9.—The Standard Oil Co. of Louisiana has filed in the Arkansas Supreme court a brief in its appeal to have the Arkansas act imposing a tax of 1 cent a gallon on gasoline when used as motor fuel, declared unconstitutional.

The Standard contends that the act is illegal because it provides deprivation of property without due process of law in that it makes the oil company liable for the debts of another and subject to punishment by fine for the acts of another committed without the company's connivance, consent, participation or control; because it delegates to the company the power to levy and collect a tax; because it levies an arbitrary tax upon property and not according to its value; because it requires the seller of gasoline to collect a tax on gasoline sold to purchasers for the purpose mentioned in the act, without providing any method or means by which the seller may determine how the gasoline is to be used, and further because it makes the seller the collector of the tax and both civilly and criminally liable for the same without providing any method by which the seller of gasoline may enforce the collection.

The brief further sets forth that the act is illegal in that it grants an immunity to citizens and classes of citizens, which, upon the same terms, is not granted to all citizens.

The law firm of Poe, Gannaway & Poe of Little Rock, is handling the case for the Standard.

VALPARAISO, IND., March 9.—The Johnson Oil Refining Co., of which J. I. Hering is manager, has purchased a lot on the Lincoln Highway in Westville, Ind., 11 miles east of Valparaiso and will build a service station. This will make the company's second station. One costing $15,000 and the first in this vicinity was built two years ago. Better weather is bringing forth automobiles and improving business, Mr. Hering reports.



Quick Shipment on Storage Tanks

55,000, 10,000 and 5,000 barrel Storage Tanks in stock assuring prompt shipment anywhere. KAW Storage Tanks, Stills, Condenser Boxes, Agitators, Towers, etc., are dependable—always. Properly constructed in every detail. *Write or wire for prices.*

Kaw Boiler Works Company

Sales Office:
1403 Waldheim Bldg.
Kansas City, Mo.

KAW

Plant:
First and Walker Sts.
Kansas City, Kans.

PETROLEUM PRODUCTS

Producers, Refiners and Marketers of Petroleum

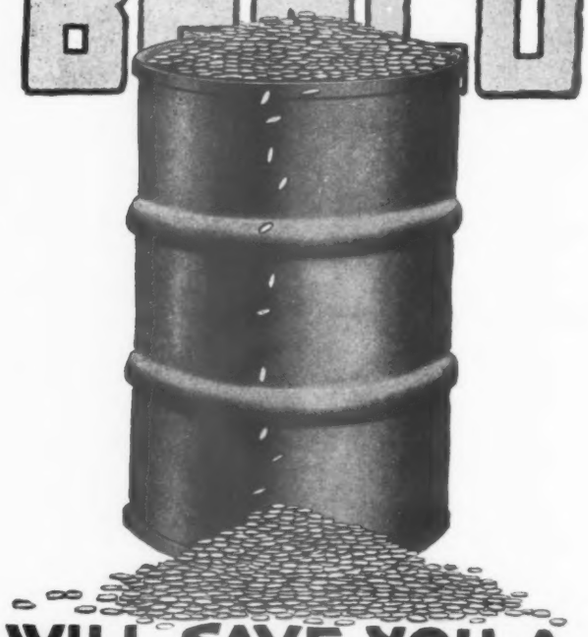
Offices

Executive Office: White Oil Building, 66 Broad Street, New York City.

Division Sales Offices: Binz Building, Houston, Texas; Clarendon, Pa.; Transportation Building, Chicago, Ill.

WHITE
Oil Corporation

BENCO



WILL SAVE YOU A "BARREL OF MONEY"

Special machines of our own exclusive design have so multiplied efficiency in the BENCO plant as to enable us to offer BENCO quality steel containers at prices surprisingly low.

Benco has consistently succeeded in offering high quality at low price. That is why we can truthfully say that the use of BENCO containers will, in the long run, literally "save you a barrel of money."

WILSON & BENNETT MFG. CO.

S. Menard Ave. Chicago, Ill.

Sales Representatives In All Principal Cities

You Save by Buying a Taber

Fig. 308 is a powerful pumping unit of two 2-inch 'S' pumps with bronze buckets. Capacity 75 and 100 GPM. Clutches permit independent operation of pumps.

Taber Pump Co.

286 Elm St. Buffalo, N. Y.

Reservations Rushing In For N. P. M. A. Rally

By Special Correspondent

KANSAS CITY, March 10.—Hotel reservations are being made rapidly for the spring rally of the National Petroleum Marketers Association to be held in Convention hall April 4 to 7, and it is believed the meeting will be the largest ever held by a marketers' organization. Reservations are being made through the convention committee of which W. T. Crotzer of the Stevens Grease and Oil Co., is chairman. Headthe Oil Men's Club of Kansas City of quarters is at 207 Hotel Baltimore. Mr. Crotzer handled the reservations at the National Petroleum Congress here last March to the satisfaction of the oil men.

To the entertainment features of the rally has been added what will be known as "Kansas City Night." This will be held either April 4 or 5 and is being planned by a committee consisting of E. C. Winters White Eagle Oil & Refining Co., chairman of the club; E. E. Bush, Diamond Refining Co., vice chairman, and Don J. Butler, Butler Manufacturing Co., treasurer. The nature of this "Night" has not been divulged.

For the purpose of intelligently handling exhibits shipped to the convention, arrangements have been made with the D. A. Morr Transfer & Storage Co., 100 W. 14th street, Kansas City, to care for all shipments. Exhibits should be addressed to the shipper at Convention hall and sent care of the transfer company. As many shipments probably will arrive here before the hall will be available to the oil men, the company will store them until such time as they may be moved to the hall and set in place. Arrangements should be made directly with the Morr company, the N. P. M. A. advises.

Exhibitors have been notified that electricity available in the Convention Hall is both alternating and direct, 110 and 220-volt current and that the alternating current is 60 cycle, single phase. Electrically driven displays should be equipped accordingly.

Kentucky Bill Changes Name Of Oil "Testing"

FRANKFORT, KY., March 10.—Among the oil bills before the Kentucky legislature is one which would abolish the office of oil inspector but would create the office of oil tester and gauger. All petroleum products having a flash test under 100 degrees F. would be subject to tests and fees. Testers would be appointed by county judges in counties not having first class in counties having first class cities. cities and by the state tax commission Fees would remain the same as now are charged.

JACKSON, MISS., March 9.—The Mississippi legislature has passed the bills providing that the right of eminent domain be extended to pipe lines.

Here And There

HAMMOND, IND., March 11 HARRY J. KENNEDY, formerly with the Marland Refining Co., at Ponca City, Okla., has been elected vice president of the Moorhead Oil Co., of Hammond and has been appointed general manager to be in charge of the barreling and compounding plant. He will superintend the compounding of all Marland oils and greases for the Chicago territory. R. J. DeLong, who for a number of years was a district superintendent for the Vacuum Oil Co., and later held a like position with the Sinclair Refining Co., has been made sales manager for the Moorhead company. He will develop the sale of Marland products in the five states comprising the Chicago territory. He expects to have 10 men operating in a short time.

* * *

DES MOINES, IA., March 9.—J. M. Cushman, secretary and treasurer of the International Oil Co., has resigned as secretary of the Iowa Oil Jobbers Association because of ill health. He has been confined to his home for four weeks with heart disease and physicians report his recovery will be slow. The International company has completed a brick office building heating plant and service station that cost $25,000.

* * *

ALEXANDRIA, IND., March 10.—V. E. Bilby has left the Mileage Oil Refining Co. and has bought a half interest in the Liberty Oil Co. which was recently organized. J. E. McDaniel is his partner. The Liberty has installed storage and is operating trucks. It reports its jobbing business of gasoline kerosene, motor and tractor oils is starting off good.

* * *

PRAIRIE CITY, IA., March 9.—The Manhattan Oil Co. of Prairie City, is placing all of its service stations on a commission basis, C. S. Patterson, service station agent, announces. The company expects this will provide an incentive for operators to get more business.

* * *

WATERLOO, IA., March 9.—A. H. Coward, president; W. H. Coward, vice president, and H. C. Coward, treasurer of the Hawkeye Oil Co., Waterloo, are spending the winter in California. The Hawkeye salesmen held a meeting and banquet at the Gallaway club here Feb. 24.

* * *

TULSA, March 10.—A. C. Forsman has resigned as western manager of the Jewett & Sowers Oil Co., Chicago. He had held that position three years and will be succeeded by G. E. Williamson who has been assistant manager since the office was opened here.

* * *

WATSEKA, ILL., March 10.—Tourists returning from Florida along the Dixie highway are furnishing some business, according to W. R. Nightingale, manager of the Watseka Service Station. Most of the country roads in this territory, however, are impassable and that is cutting down local trade. A number of farmers also are advertising their tractors for sale and this outlet for kerosene and tractor oils may be cut down somewhat. Beginning April 1, the Watseka Station will operate 20 hours a day, thus being able to get business from trucks going to and from Chicago.

* * *

MASON CITY, IA., March 11.—It is reported here the Standard Oil Co., will build three more service stations here. It already has two stations.

* * *

CALMAR, IA., March 9.—Business in this district is much better now than at the same time last year, reports W. A. Cagle, district representative of the Hawkeye Oil Co. of Waterloo.

* * *

PEORIA, ILL., March 10.—Bluebirds and robins, which have arrived here, are considered by C. A. Anicker, manager of the Superior Oil Co., to be the harbingers of better spring business.

* * *

TULSA, March 10.—George Foland, president of the Bear State Oil Co., of Rogers, Ark., after attending the meeting of the Tennessee and Arkansas jobbers in Memphis on Feb. 24, came to Tulsa and visited his acquaintances in the refining business.

* * *

ARMSTRONG, IA., March 11.—The rise in the price of farm products is helping the oil and gasoline business in the vicinity of Armstrong, according to S. A. Butcher, secretary of the Armstrong Oil Co. The roads are now free of snow and early indications are that 1922 business will be good.

* * *

PRINCETON, IND., March 10.—The Growth of the business of the Sinclair Refining Co. in southern Indiana has been rapid according to I. E. Jarrett, agent of this company at Princeton. In the last 18 months Sinclair has become one of the leading distributers in this territory, he says.

* * *

AFTON, IA., March 9.—Leasing and rebating has been practically eliminated in this region, according to G. R. Spencer, sales manager of the Spencer & Perry Oil Co. Independent oil men have been advertising goods superior to those offered by the Standard and report they have made big gains in this territory.

* * *

LE ROY, ILL., March 9.—The Peoples Oil Co., is the name of a new organization formed to take over the business of the Peoples Oil & Coal Co. Demand in this territory is light as banks are not extending credit and farmers are leaving more than half of their tractors in their sheds, W. F. Crumbaugh reports.

* * *

TULSA, March 10.—J. A. Secunde is back in Tulsa where he was in business for himself before entering the army. At present he has no business connections but expects to have his assignment of duties announced in the near future. Mr. Secunde entered the oil business in the employ of the Standard of Ohio. Later he was in charge of the tank cars in Kansas for the Vacuum Tank Line. Then he was in the traffic department of Chestnut & Smith Corp., and lately with the Avery Oil & Grease Co., of Ashland, O.

* * *

PEORIA, ILL., March 10.—W. H. Coleman, formerly a lubricating salesman for the Standard Oil Co. in the Peoria division, has been promoted to district superintendent of the Saginaw (Mich.) division. G. F. Phillips is assistant manager of the Peoria division.

* * *

MILWAUKEE, WIS., March 11.—Edward Taylor who for several years was with the Standard Oil Co., is now in business for himself as distributor of Linco oil products. His office and warehouse is at 116 Foweler street, Milwaukee.

* * *

ELNORA, IND., March 9.—Dillon, Hasler & Ross of Elnora have installed storage and are jobbing gasoline and lubricating oils.

* * *

GRABILL, IND., March 9.—H. J. Klopfenstein has been transferred here as agent of the Standard Oil Co. He had been agent at Albion.

* * *

TAYLORVILLE, ILL., March 10.—The Schneiter Luster Oil Co., of which J. E. Schneiter is manager, has been formed here to wholesale petroleum products.

* * *

TULSA, March 9.—H. T. Ashton, sales and refinery manager for the western division of the Pure Oil Co., and vice president of the Association of Natural Gasoline Manufacturers, has been ill at his home here with influenza.

* * *

ALGONA, IA., March 9.—A new drive-in station has been built here and is being supplied by the Standard Oil Co. O. S. Lindsay, agent here for the Standard reports the business tone is better.

* * *

MAPLE PARK, ILL., March 11.—John Treadwell, Jr., of the Maple Park Oil Co., reports that business in this territory is improving as the roads are getting better. The Maple Park company started handling Marland gasoline and oils Feb. 1.

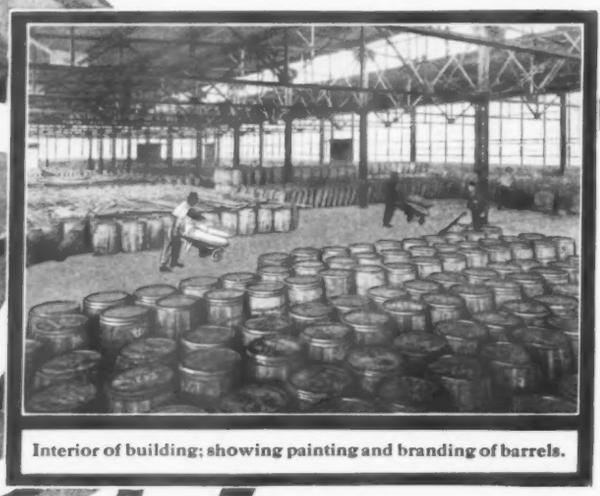
* * *

INDIANAPOLIS, IND., March 12. The Energy Gasoline & Oil Co. is completing a modern service station at 11th street and Park avenue. Although this company is only a year old it is enjoying good business and has four well located service stations. C. B. Cox, for several years with the Indian Refining Co., is president and F. T. Crist, also a former Indian man, is secretary-treasurer.

* * *

MENDOTA, ILL., March 11.—M. E. Worsley who has been with the Standard Oil Co., has started to work for the Central Oil Co. of Mendota. The Central, although it has been in business only a few weeks reports it has sold 10 cars of gasoline and a carload of oils and greases in this town of 4,000 and the surrounding territory. Six tank trucks work out of Mendota.

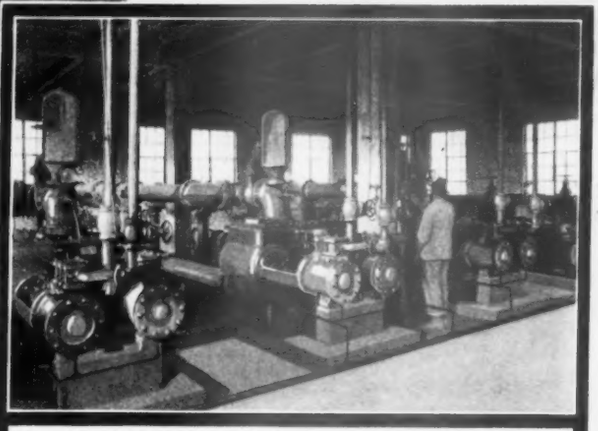
— A LINK IN A



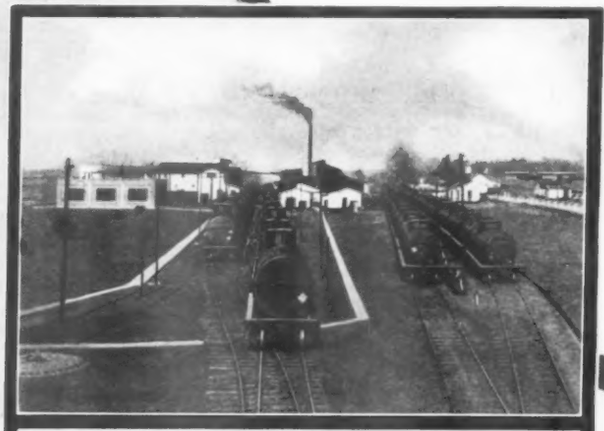
Interior of building; showing painting and branding of barrels.

FROM the viewpoint of the oil world, New Orleans is a most strategic port on the nation's map. Directly connected with the greatest railroad systems and intimately served by all great trans-oceanic steamship lines, it affords a modernly equipped exporting point within a step of every foreign buyer of Petroleum and its Products.

Located here, at the edge of America, UNION'S plant puts the national resources of this great company at the very threshold of all export oil markets. Here are the necessary wharves, warehousing, storage in steel, loading apparatus, ocean going ship anchorage, barge, tanker and tug facilities, for the speedy and accurate despatch of petroleum in bulk or package to any port on earth.



Interior of Pump House, six large pumps; capacity, 3,000 barrels per hour.



View of track looking up yard, showing some of the different buildings.

Survey Shows Quality Of Gasoline Is Upheld

By Special Correspondent

WASHINGTON, March 9.—The fifth semi-annual survey of the Bureau of Mines of gasoline marketed in nine cities, New York, Washington, Pittsburgh, Chicago, New Orleans, St. Louis, Denver, Salt Lake City, and San Francisco, shows the quality of that sold in January 1921 and January 1922, is greatly similar. The greatest differences were shown at Salt Lake City where the average boiling point was 24 degrees F. lower this year and Pittsburgh, where it was 16 degrees higher. Improvement was shown at Washington where the initial average was lowered 20 degrees.

The average for eight cities (this was the first time the service was extended to Denver) shows an initial boiling point of 102 as compared to 113 a year ago, and an end point of 430 as compared to 431 a year ago. It also shows that the average gasoline sold is more volatile than that required under new navy specifications which require an initial boiling point of 140 degrees and an end point of 437.

"In this survey," says the Bureau of Mines report, "119 samples of gasoline were collected from nine cities, the samples being taken as in previous surveys. The analysis was made in accordance with methods given in Technical Paper 214 of the Bureau of Mines, entitled 'Motor Gasoline,' by E. W. Dean. The actual specific gravity at 60 degrees F., corresponding Baume gravity, initial boiling point 20, 50, and 90 per cent points, end point, and average boiling point, and the percentage recovered in the receiver, were determined for each sample and tabulated.

"The average figures for each city and the average for nine cities in January, 1922, and eight in January, 1921, are given in the accompanying table."

Sixty-two of the 119 samples failed to meet the federal specifications adopted Nov. 25, 1919. Three samples had too high initial boiling point; 31 had too high end point; in 19 the percentage of recovery was too low, and the per cent points were too high in the remainder. All samples taken at San Francisco met the new navy specifications and Pittsburgh samples had the greatest range, one of 64.4 Be. gravity having a first drop point of 79 degrees and an end point of 522 degrees. Only 90.5 per cent of the sample was recovered. Another sample at Pittsburgh had the lowest percentage of recovery, 87.

One of the Salt Lake City samples had the lowest average boiling point, 219 degrees. This sample had an initial point of 88 degrees and an end point of 347 and was the most volatile of the 119 samples tested.

The bureau's first gasoline survey was made in 1915, a second in 1917, and a third in April, 1919. Two limited surveys were made in 1920. All of these showed a continuous decrease in the volatility of gasoline, probably due to an increase in demand. By January, 1921, however, the volatility had increased to some extent and since that time there has been little change in the gasoline marketed.

Comparison Of January Surveys And July

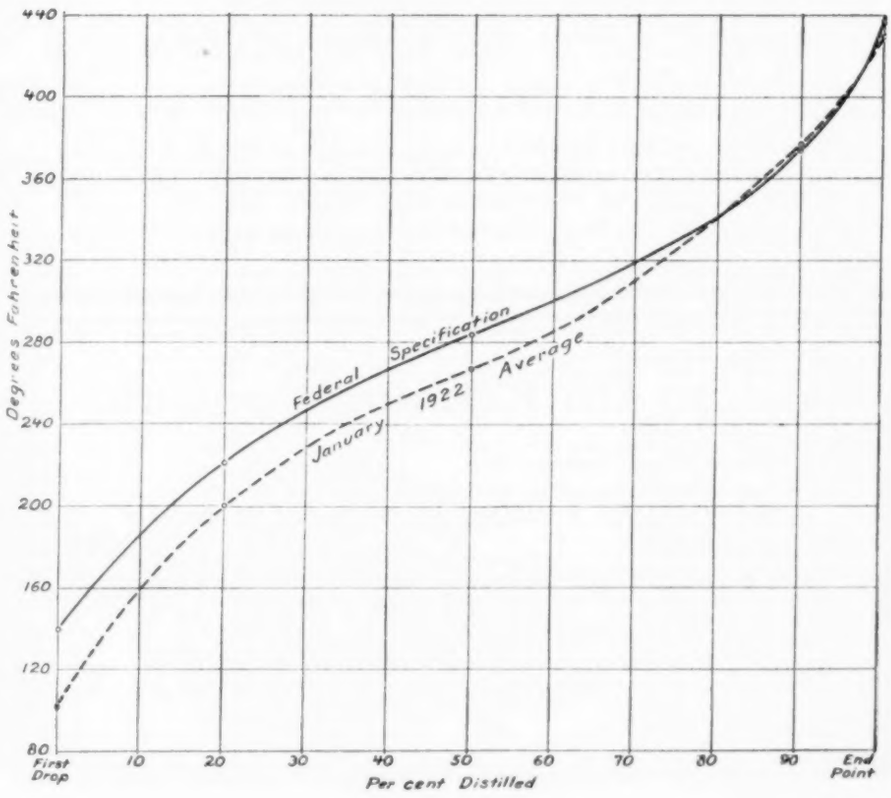
District	Date	First Drop	20%	50%	90%	End Pt.	AVG B.P.
New York	Jan. 1921	117	206	264	363	417	265
	Jan. 1922	109	205	268	368	421	268
Difference		—8	—1	+4	+5	+4	+3
	July, 1921	125	208	265	365	422	268
Washington	Jan. 1921	118	201	259	385	439	270
	Jan. 1922	98	195	259	380	428	264
Difference		—20	—6	Same	—5	—11	—6
	July, 1921	130	204	263	387	442	274
Pittsburgh	Jan. 1921	92	171	248	391	430	244
	Jan. 1922	93	176	256	390	430	260
Difference		+1	+5	+8	—1	Same	+16
	July, 1921	112	181	247	382	435	259
Chicago	Jan. 1921	117	191	248	387	439	264
	Jan. 1922	104	208	272	386	442	270
Difference		—13	+17	+24	—1	+3	+6
	July, 1921	125	202	261	389	444	273
New Orleans	Jan. 1921	123	211	270	366	428	272
	Jan. 1922	114	202	274	371	428	273
Difference		—9	+1	+4	+5	Same	+1
	July, 1921	131	214	279	376	427	279
St. Louis	Jan. 1921	114	202	271	381	444	274
	Jan. 1922	96	205	279	386	435	274
Difference		—18	+3	+8	+5	—9	Same
*Denver	July, 1921	128	205	268	383	441	276
	Jan. 1922	104	201	266	378	432	268
Salt Lake City	Jan. 1921	112	206	282	397	439	285
	Jan. 1922	99	197	261	362	412	261
Difference		—13	—9	—21	—35	—27	—24
	July, 1921	126	200	156	353	401	259
San Francisco	Jan. 1921	121	210	267	355	417	265
	Jan. 1922	112	208	261	359	421	264
Difference		—9	—2	—6	+4	+4	—1
	July, 1921	129	206	258	356	421	265
8 Districts	Jan. 1921	113	197	261	378	431	265
	Jan. 1922	102	199	266	377	430	267
Difference		—11	+2	+5	—1	—1	+2

*Not included in previous surveys.

Average Results Of January, 1922, Survey

District	Specific Gravity	Baume Degrees	First Drop	20%	50%	90%	End Pt.	Avg. B.P.	Per cent Recov'rd
New York City	0.742	58.6	109	205	268	368	421	268	96.1
Washington, D. C	0.751	56.6	98	195	259	380	428	264	95.8
Pittsburgh, Pa	0.733	61.3	93	176	256	390	430	260	94.0
Chicago, Ill.	0.751	56.6	104	208	272	386	442	270	96.4
New Orleans La.	0.744	58.3	114	212	274	371	428	273	97.3
St. Louis, Mo.	0.743	58.5	96	205	279	386	435	274	95.5
Denver, Colo.	0.746	57.8	104	201	266	378	432	268	97.0
Salt Lake City, Utah	0.744	58.2	99	197	261	362	412	261	96.6
San Francisco, Cal.	0.762	53.6	012	208	261	359	421	264	97.2
Average for 9 Cities	0.745	58.0	102	200	267	377	430	268	96.0
Average for 8 Cities included in January 1921 survey	0.745	58.0	102	199	266	377	430	267	95.9

Curves Of Gasoline Averages And New Navy Specifications



A Genuine Gusher in Rush Hours

THE acme of accuracy is the Milwaukee Rapidelivery Speed Pump for filling stations. Pumps 18 gallons per minute with ease and positive precision. Operating handle turns forward,—never backward. Illuminated dial reads front and back. Steel-cut gears; every bearing, every part built with extreme care to secure perfection, strength, durability. Subjected to rigid factory tests.

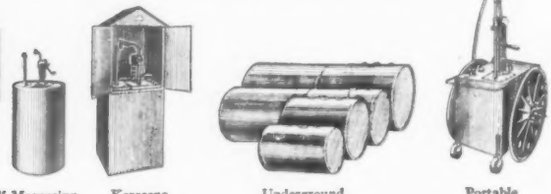
A Worthy Representative

—of the superlative Milwaukee line of gasoline and oil station equipment, underground tanks, factory and railroad oil storage equipment. Dry cleaning outfits, etc., recognized leaders for many years.

Export Department. Milwaukee Tank Outfits are also made in Imperial and Metric measurements, for all foreign countries.

Write us. We will gladly tell you what equipment is best for your particular needs, give you estimate of cost and full particulars. Address our branch nearest you.

Country-Wide Sales and Service



Self-Measuring Lubricating Oil Outfits — Kerosene and Oil Cabinets — Underground Kant-Leek Tanks — Portable Gasoline Wheel Tanks

Milwaukee Tank Works

Milwaukee, Wis. U.S.A.

BRANCHES:

Boston Mass. *Tremont Bldg.* — New York *Marbridge Bldg* — Cleveland, Ohio *Plymouth Bldg.* — Chicago *Fisher Bldg.* — Minneapolis, Minn. *Plymouth Bldg.* — Kansas City, Mo. *Waldheim Bldg.* — San Francisco, Cal. *7th and Bryant Sts.*

Don't fail to visit the Milwaukee Exhibit at the Convention in Kansas City, April 4th to 7th, Space 34. Mr. Theodore Davis, Manager of the Kansas City Office, and Mr. S. T. Hudson, our Omaha representative, will be glad to see you.

Vulcan Oil Refining Company

Executive Offices—Accounting Department
Hanna Bldg., Cleveland, O.

Sales Department—Refining Works
Coraopolis, Penna.

Refiners of Pennsylvania Crude Oil

Gasolines
Napthas
Water White Oils
Absorbent Oil
Fuel Oil
Viscous and Non-Viscous Pale Neutral Oils
Filtered and Steam Refined Cylinder Stocks
Tempering and Tractor Oils
Gas Oil
White Paraffine Wax
Low and Regular Cold Test 300 Mineral Seal Oil

Tank car and barrel shipments

Misrepresentation Seen In Accessory Publicity

Staff Special

CLEVELAND, March 10.—A letter written by the chief engineer of the Dort Motor Car Co. placing on gasoline the blame for dirt that accumulates in carburebroadcasted by the Bassick Manufacturing Co. of Chicago as publicity to boost the sale of a cleansing device to be attached to the gas line, has caused gasoline service station men and others affiliated with the oil industry to denounce such statements concerning motor fuels and the unethical methods of advertising, which are based, oil men point out, upon imperfect knowledge and a lack of investigation.

The letter from the Dort chief engineer to the Bassick company says: "We have tried your Gas-Co-Lator and wish to advise that we approve the use of it for a Dort car in service. The gasoline furnished by the service stations nowadays is so dirty, that, although we have equipped our cars with three different screens on the gasoline line, it is still necessary to have some additional means of preventing the water and other impurities from reaching the carburetor. Your device fulfills this function satisfactorily."

One of these letters came into the possession of the Quick Service Filling Station, Inc., of Orlando, Fla., and exceptions to misrepresentations were quickly taken in a letter to the Bassick company. The Quick Service letter follows:

"We are in receipt of the attached letter (The Dort letter) through the Alemite Lubricator Co. of this state, and in it we find one statement, that, while not directed to our business in particular, it is quite a reflection, as well as a gross misrepresentation, on the legitimate filling stations throughout the country.

"We quote the letter as follows: 'The gasoline furnished by the filling stations nowadays is so dirty,' etc.

"We operate two filling stations in this section of Florida and have been for a number of years. Prior to this we were local agents for one of the large oil companies, and with this experience, we believe we have at least some little knowledge in connection with the retail gas and oil business.

"At our stations we handle 'Crown Gas,' which as everyone knows is a Standard Oil product. We use both Bowser and Gilbert & Barker pumps, both of which are acknowledged to be the equal of any on the market in every respect. Both of the manufacturers state that the gas that is served through these pumps is filtered, and that no dirt can pass through. This can be proven by an inspection of these instruments.

"The oil companies, the legitimate filling station owner, and the pump manufacturer, provide against every possibility of trash being pumped into the gas tank on a car. If the car owner would take half the precautions in this connection, there would be less trash in the gas line of every car.

"With all respect to the knowledge of the author of the communication attached, we believe that the idea he meant to convey was that some device was needed to collect whatever dirt found its way into the fuel tank, thereby preventing it from reaching the carburetor. In this we agree, but when he made the above statement,

TEX

WE
PET

And backing
zation complet
own production
your siding.

There's our produ
Holliday, our pipe
refinery, our one hundred and eight
that sees that your orders are prompt

Gasoline for cold weather and kerosen
leaders. Try us for any petroleum prod

We'll deliver
a full measure

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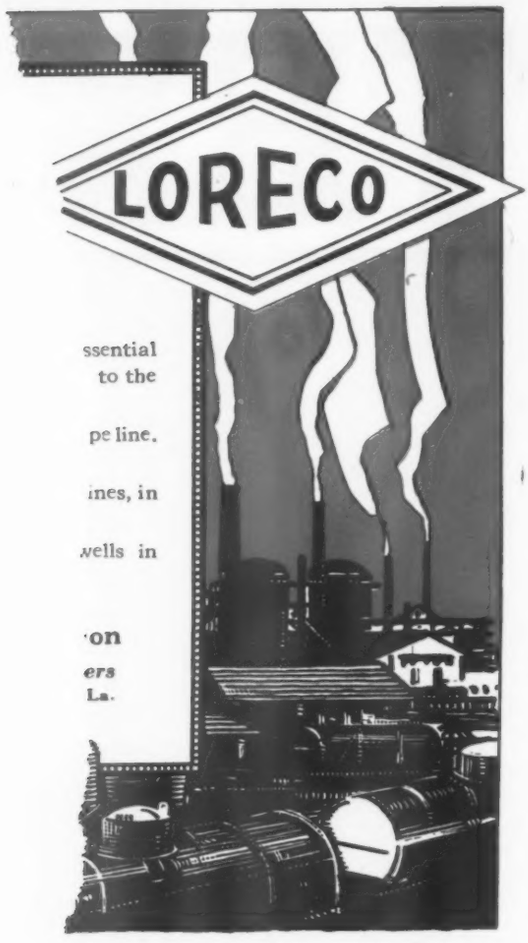
TEXHOMA OIL & REFINI
WICHITA FALLS, TEXAS



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ery gasoline, with

just enough Highway casinghead (natural gasoline) added to give it the necessary low initial which makes easy starting certain, blended under pressure (which eliminates stratification), and every car carefully tested in our own laboratories before shipment—that's Highway gasoline, the ideal winter fuel.

62-64, 90 initial, 440 endpoint
64-66, 90 initial, 437 endpoint

If you are interested in a regular source of supply for a high grade gasoline which will bring your customers back for more, it will pay you to get in touch with us.

il Refining Corporation

Tulsa, Oklahoma

it displayed the fact that he needs to be enlightened from someone in the filling station business.

"As regards this letter being a valuable piece of publicity for the Bassick Manufacturing Co., we hardly see it that way, as they no doubt realize that a large percentage of their products are handled through filling stations as well as other places where gasoline is sold at retail, and if most of those places take the pride in the efficiency of their gas stations that we do, they will most certainly take offense at such an article.

"We would like to ask Mr. Blanch, chief engineer, Dort Motor Car Co., the following question: 'What if the filling station men throughout the country in general, were to tell every car owner that drove up that every car manufactured today was so mechanically imperfect that some certain accessory which we happen to have in stock was absolutely necessary to make the car successfully operate?' It would of course be propaganda, but would have some effect where intended.

"We handle Gas-Co-Lators, Alemite systems and practically all of Bassick products, and do a wonderful business on some of them. As regards the Gas-Co-Lator, we fully realize the benefit of it; in fact, the writer has one on his car and it frequently needs cleaning, but it is not believed that the water, trash and other foreign matter enters the tank through the gas pump.

"If Mr. Blanche has the best interests of the automobile business and all its allied industries at heart, we believe he will appreciate this being called to his attention."

Oil men point out that the chief source of dirt in the carburetor is the air intake and that automobile owners are more or less careless about the condition of the gasoline tanks. Gasoline is filtered as it passes through the pumps and what water or dirt might have been in the storage tank is removed before it passes through the hose into the car's tank. They charge that the Dort engineer evidently failed to investigate the mechanism by which gasoline is dispensed before he made his broad charge against filling stations.

Supply Men's Catalogs Sought By N. P. M. A.

CHICAGO, March 10.—President L. V. Nicholas of the National Petroleum Marketers Association has issued an appeal to associate members to place the name of the association on their mailing list for circulars, price lists, catalogs and any other printed matter pertaining to their businesses.

The association intends to file this matter, placing that of each company in a separate folder where it will be available for the answering of inquiries of members concerning the products of the associate members.

"For instance," writes Mr. Nicholas in his appeal, "We are just in receipt of an inquiry asking for the names of manufacturers of 30 and 60 gallon lubricating tanks and pumps. The information we have on hand in this office is too meager to permit us to make an intelligent answer."

The address of the association is Fort Dearborn Bank building, 76 W. Monroe street, Chicago.

NOCHAR NOCHAR

Are you looking for various grades of GOOD MOTOR OILS

Then you are looking for JBN. You can readily blend this heavy Pennsylvania automobile oil with light Pennsylvania automobile oils, making various grades without the slightest possibility of the oils separating, due to our special process of manufacturing JBN.

Ask us for samples and prices

Ohio Valley Refining Co.

REFINERS OF PENNSYLVANIA PETROLEUM

St. Marys, W. Va.

Get Jack Frost Working For You

Give him KEEN & WOOLF Cold Weather Lubricating Oils and old Jack will be the best man on your payroll.

"K-W" Specifications

100 @ 100	Vis.	2	Color	Pale
200 @ 100	"	2½	"	"
300 @ 100	"	3	"	"
500 @ 100	"	3¼	"	"
750 @ 100	"	2½	"	"
200 @ 100	"	5	"	Red
300 @ 100	"	5½	"	"
500 @ 100	"	5½	"	"

Zero Cold Test.

100 @ 212 Vis. Black Oil 0/5 C. T.

Write us for samples and prices so you can start off a prosperous New Year in high speed.

Keen & Woolf Oil Co.
Houston, Texas

KEEN & WOOLF
FOR PROFITS IN OLD WEATHER

Better Operating Methods

Here is a concise, practical book, just out, on standard American methods of developing oil properties—"Oil Field Practice," by Dorsey Hager, petroleum geologist and engineer.

"The discovery of oil is important, but the proper handling of oil properties, after discovery, requires skilled management and skilled workmen. Oil may be found in quantity but if improperly handled, good properties may be total failures."—the Author.

310 pages, illustrated: pocket size, flexible—$3.00, check with order, postage extra—for sale by

National Petroleum News, 800 Caxton Bldg.
Cleveland, Ohio

Industrial Notes

W. B. Stamford, formerly with the engineering force of S. F. Bowser & Co., has joined the St. Louis Pump & Equipment Co. and will be in charge of sales in the Pittsburgh district. A. L. Casey and W. E. Grooms, both formerly with the Bowser company, will represent the St. Louis company in the Nebraska and Iowa territories, respectively, with headquarters at Omaha and Des Moines. The St. Louis company will show its complete line of liquid handling equipment at the spring rally of the National Petroleum Marketers Association in Kansas City, April 4 to 7. Willard D. Smith will be in charge of the exhibit which will include a Model 402 visible gasoline filling station unit in operation. C. C. Fredericks will be at the convention and will be in charge of the company's display rooms on the first floor of the Railway Exchange building where stenographic service will be afforded the visiting oil men. Dillon T. Stevens, advertising manager, also expects to attend the convention.

* * *

F. A. Little, well known in Tulsa engineering circles, is to be in charge of Texas business of the Freeborn Engineering Corp., which has its headquarters in Tulsa. Mr. Little will have his offices in the Slaughter building in Dallas. Before making connection with the engineering company, he was with O'Neill, Moltz and Heavner, insurance engineers.

* * *

E. Rouse Thompson, of the St. Louis Tin & Sheet Metal Working Co., better known to jobbers and refiners as "Tommy", was in Tulsa last week on a tour of the southwest, and reported the jobbing trade was placing good sized orders for cans for motor oil and grease in anticipation of business the coming season. He said his company was running at capacity, mostly on new business.

* * *

The Republic Motor Truck Co., Inc., and the Republic Truck Sales Corp. announce the recent election of Col. Frank E. Smith as president and general manager. Republic affairs have been under the administration of Col. Smith since November, 1920, and the period of deflation and readjustment has been successfully weathered.

* * *

The Pyrolectric Instrument Co. of Trenton, N. J., has issued a new catalog listing its products which include electrical precision instruments, hydrogen-ion apparatus, laboratory accessories, pyrometers and electrical furnaces.

* * *

Hoyt Metal Co., St. Louis, is putting out a "crawl-proof" sheet lead to be used as lining for agitators. This is chemical lead re-inforced with hard bars running the full length of the sheets.

* * *

The Stover Manufacturing & Engine Co. of Freeport, Ill., is putting out a reverse drive unit, which it claims eliminates the cost and trouble incident to the use of reverse clutch pulleys. This unit, the makers say, enables the man on the derrick floor to control the power and bring the reverse drive unit into play by the simple movement of a lever. While the unit is designed to be used with the Stover fuel oil engine it can be hooked

up with any engine. The Stover engine, which is well known in the oil fields, is designed to operate on kerosene, crude or fuel oil, distillate of, or other low grade fuels. It is built in 15, 20, 25, and 30 horsepower sizes.

* * *

The Youngstown Welding Co., Youngstown, O., is making truck tanks which it claims "drain like a funnel." The tanks are electrically welded, and are said to be strain-proof and leak-proof. Thy come in round, elliptical and semi-rectangular types. A sump or cistern in the bottom of each compartment drains down like a funnel no matter what the position of the truck, the manufacturers say.

* * *

The M. B. Skinner Co., Chicago, has just published a new catalog listing its pipe repairs, reseating tools and specialties. Among the articles are a joint clamp and emergency pipe clamp for stopping leaks in air, steam and water lines.

New Books

Natural Gas in Kentucky, by W. R. Jillson, state geologist. Describes geological formations, oil and gas sands, structure, production volumes and values and outlines conservation measures. Price $2, sold direct by the author, Frankfort, Ky.

* * *

Burning Liquid Fuel, by William Newton Best, F. R. A. S., illustrated with equipment for burning oils in various industries. Little space is used to draw comparisons between oil and other fuels, but all attention is centered upon methods of using the latter. Chapter headings as follow give an idea of the scope of the work:

Liquid Fuel—Its Origin, Production and Analysis.
Atomization.
Oil Systems.
Refractory Material
Locomotive Equipment.
Stationary and Marine Boilers.
Low Pressure Boilers and Hot Air Furnaces.
Commercial Gas Industry Equipment.
Sugar Industry Equipment.
Steel Foundry Practise.
Heat-Treating Furnace Practise.
Malleable Iron, Grey Iron and Brass Foundry Practise.
Modern Forge Shop Practise.
Boiler Manufacturers' Furnace Equipment.
Copper Industry Equipment.
Enameling Equipment.
Chemical Industry Equipment.
Ceramic Equipment.
Lime Industry Equipment.
Cement Industry Equipment.
Dryers and Ore Roasters.
Bread and Cracker Oven Equipment.
Chocolate Industry Equipment.
Oil and Tar Still Equipment.
Incinerator Equipment.
Glass Industry Equipment.
Combustion Engineering.

Sold by U. P. C. Book Co., 243 West 39th St., New York, N. Y. Price $5.00.

A Standard Round Tank

This 500-gallon three-compartment round tank shows the standard method of construction. The can box is made the same height as the tank and of sufficient width to hold four buckets and funnels.

The floor of the can racks extends to the outside edge of the hub caps giving sufficient room to carry several 10-gallon oil cans. The floor of the can rack platform is 1⅛" oak ironed on the outside with 1" steel band screwed into place.

The can rails are made of ¾" piping. The posts are crowned with acorn caps. The can rack chain may be unfastened so that cans can be set on easily.

The longitudinal sills and cross arms are of kiln dried white oak, the can box of Virginia White Wood. Every part is put together with extreme care so that it will give maximum service.

Let us send you literature and prices covering the tanks you may require this season. Write today.

Quality TANKS BODIES & HOISTS "Made by Heil"

THE HEIL CO.

1238-50 26th Ave. Milwaukee, Wis.

Literature and Prices sent upon receipt of your 'phone call, letter or wire to ne arest Heil branch

The Heil Co. Chicago
Modern Vehicle Co. San Francisco
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General Auto Truck Co. Washington D. C,
Standard Parts Corp., Richmodd
Motive Parts Corp. New York City
The McKenna Co. Cleveland

Franklin Quality Refining Company

Producers and Refiners of

Pure Pennsylvania and Franklin Crude Oil
Straight Run High Grade Motor Oils

Franklin, Pennsylvania

Petroleum Products of Quality

Gasoline Kerosene Naphtha Gas Oil

Lubricants Paraffin Wax Fuel Oil Road Oil

Shipments in Tank Cars and Barrels

SINCLAIR REFINING COMPANY

Cable Address "Sorcorp"

111 W. Washington St., Chicago Ill.

SINCLAIR OIL BUILDING 45 Nassau St., New York

REFINERY-TANK WAGON MARKETS

Market Condition Smoother

JUST on the eve of the opening of the big gasoline season, the Standard Oil Co. of Indiana has taken a step that it is believed will result in eliminating at least 90 per cent of the price-cutting and other unethical practices that have prevailed in various parts of its marketing territory covering 11 states. This was the increasing of the service station price of gasoline throughout the territory to allow a 2-cent differential between tank wagon and retail price. This advance was made effective March 13.

Prospects Good For 1922 Season

With the 2-cent differential allowed, to enable companies marketing their products chiefly through garagemen and curb pumps to give their resale agents the chance to make a living profit from handling gasoline, and with the furnishing of curb pumps and tanks a thing of the past, marketing conditions in Standard of Indiana territory should be better during the spring and summer of this year than ever before.

Trading Not Yet Hitting Its Stride

Business during the week at the various refining centers was somewhat hesitant as was the case a week ago. Gasoline prices at the refinery are strengthening, both in the east and in the southwest, but the strength is rather due to the attitude of the refiners in holding their stuff off the market than to any actual flood of buying orders. Jobbers, however, are inquiring rather briskly on gasoline and in the Mid-Continent on lubricating oils. High gravity gasoline is scarce and the price is strong. For export, the Standard of New Jersey marked up the price of 63 gravity gasoline 1 cent during the week.

Trade Largely Depends on Weather

The rapidity with which the gasoline trading develops depends largely on the weather prevailing over the country generally. If the present fine weather continues the chances are that the volume of business moving from the refineries will be largely increased during the coming week but if another dash of winter is in store before settled spring weather begins, the market may be longer in reaching its stride. The jobbers seem generally to be in the attitude of waiting to see what will happen to crude prices, but with their storage depleted as it generally is, they cannot stay out of the market long when their retail trade begins to feel the effect of fine motoring weather.

Fuel Oil and Kerosene Troublesome

While gasoline is strengthening and neutrals and other products are showing signs of returning life, kerosene and fuel oil remain inert. The outlook is that the market for them during the coming summer will be small unless, in the case of kerosene, the farmers put their tractors into operation and buy new ones to a greater extent than now seems probable. If there is a coal miners' strike enduring for any length of time it is almost a certainty that the price of fuel oil will be stimulated.

Runaway Market Not Desirable

While a runaway market for fuel oil is undesirable, as it has a tendency to repel consumers from the use of oil because of its instability, a long-enduring coal strike might bring a steady strong demand that would keep oil at a profitable level and absorb the big stocks on hand without running it up to a price that users would be sure to denounce as profiteering.

Gasoline Is Stronger In North Texas Market

Staff Special

FORT WORTH, TEX., March 13.—Gasoline strengthening about ¼ cent in this section, was the outstanding event in the market during the last week. There has been good movement of superior grades to export and some plants are turning out very little else. High prices keep buyers from other states away but local demand is good and is being supplied from current output as there is very little motor fuel in storage.

Natural gasoline, likewise, is scarce, much of the current output moving on contract. Blenders in the immediate vicinity have been keeping stocks of naphtha fairly low at refineries but a little has begun to accumulate last week.

The kerosene stagnation of two months ago has almost entirely cleared up. The supply is not burdening storage and some plants are selling from current output. Although no upturn in price has developed it is expected, if there is further depletion in stocks.

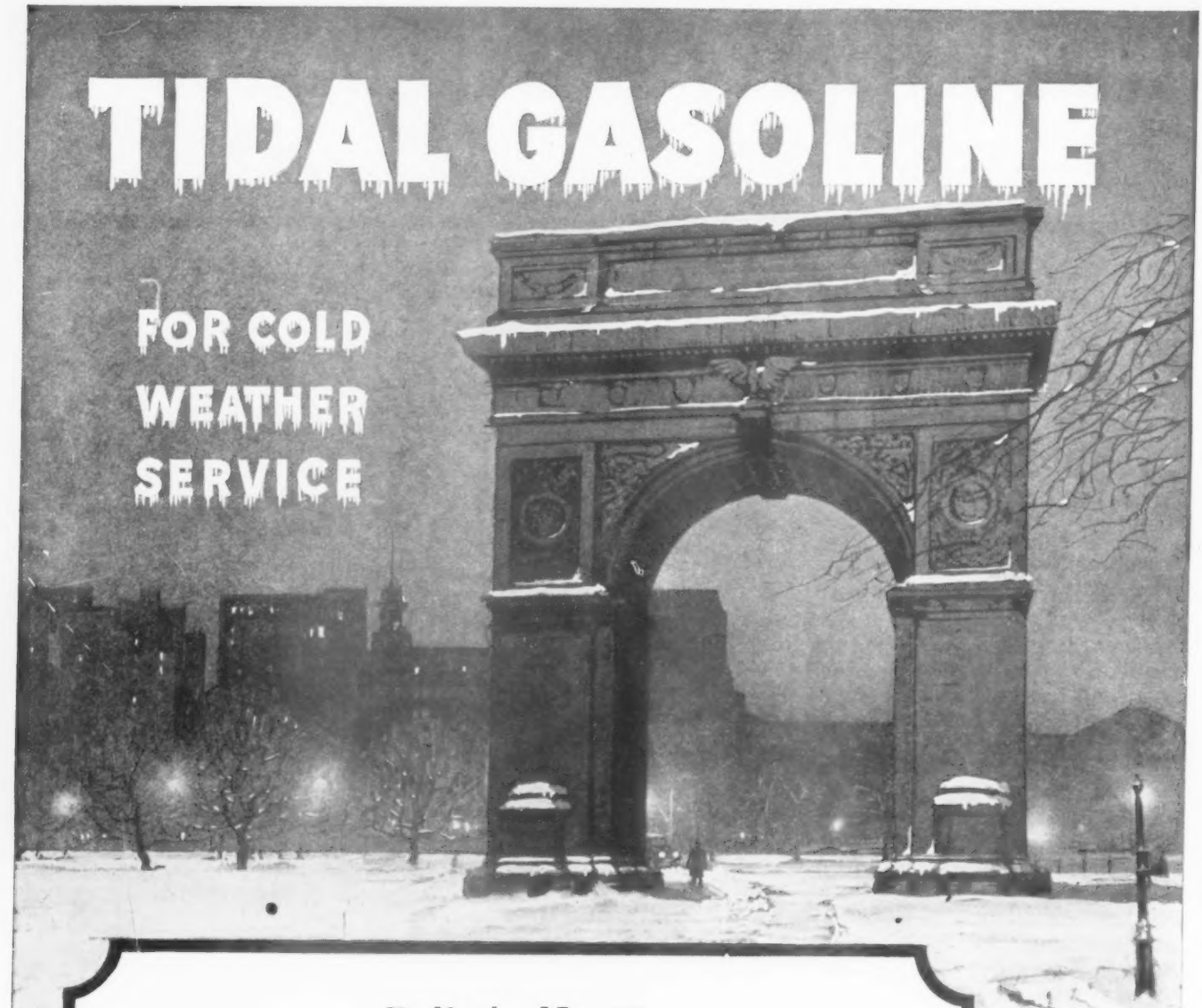
Gas oil prices are holding up but the demand is weak and goods are accumulating. Fuel oil is in much the same shape. A few large orders of fuel placed in this region recently were handled by the large companies and the Independent refiners' condition is but slightly changed.

Save $300,000 On Coal At Pure Oil Co. Plants

COLUMBUS, March 10.—By the application of "both common sense and science" the fuel division of the Pure Oil Co., which was inaugurated a little less than a year ago and which is comprised of C. B. Watson, R. A. Frevert, R. H. Carr and J. M. Augustus, has effected a saving of more than $300,000 a year on the coal bill of the company. This is according to the Pure Oil News, house organ of the company.

In three of the company's refineries the actual saving made on the fuel bill was $197,784, or at the rate of $307,880 a year. This was done without any reduction of operations and without the installation of any important new equipment.

The fuel division contemplates futher plans with regard to the saving of steam, which it is expected will effect a further saving of around $101,000 a year. The principal point in this study will be to determine the economical point as to the use of steam on drills. According to the Pure Oil News, the economies achieved represent studies in fuel and its application, beginning at the mine, and comparatively little of their work was done in the actual boiler room where the coal is burned.



Bulletin No. 72

The consumption of gasoline in 1921 was greater than in 1920 by nearly a billion gallons, the figures being 4,256,000,000 gallons in 1920 and 5,079,438,000 in 1921. This 1921 consumption exceeded that of any previous year by over 20%. There is every indication that 1922 will see a still greater demand.

This means that the gasoline jobber is identified with an expanding business. Such being the case, his own business will grow if he handles it energetically and correctly. His fundamental principle must be, of course, to sell gasoline which will win and hold the favor of his customers.

It has been amply proved that Tidal Gasoline does this notably. We would be glad to hear from a few more dependable jobbers who are looking forward to a big volume of sales this year and desire to fortify themselves with the right refinery connection.

M. O. Willcox, M. E.

Wire or Write

TIDAL REFINING COMPANY

Tidal Building—Tulsa, Oklahoma

Subsidiary of The Tidewater Oil Company, New York, Makers of Veedol Quality Lubricants and Tydol Economy Gasoline

64-66 Straight-run;
68-70 Straight-run;
Natural Gasoline, Grade A, B, C, D and E;
40-43 Kerosene;
34-38 Gas Oil;
24-26 Fuel Oil.

Refinery Markets On All Products

Pennsylvania, Oklahoma, North and South Texas

FOLLOWING are the average market prices on the more important petroleum products in cents per gallon f. o. b. in Oklahoma, Texas refinery and Pennsylvania. These are actual prices at which the bulk of each product ismoving from the refineries at the present time. Anyone having knowledge of different prices which have obtained on any considerable quanity of any of the products mentioned will greatly favor us by advising us at once.

GASOLINE AND NAPTHA

PENNSYLVANIA	Prices Mar. 13	Prices Mar. 6	Prices Feb. 13
54 Naptha	15¼-15½	-15¼	14 -14½
56 Naptha	15½-15¾	15½-15¾	14½-14¾
58 Naptha	16¾-17	16¼-17	15¾-16
60 Straight-run gasoline	17¾-18	-17¼	-17
62 Straight-run gasoline	-19	18¾-19	17½
64 Straight-run gasoline	-20	-20	19 -19¼
68 Straight-run gasoline	23½-24	23½-24	23½-24
68-70 Blend, 450 end point	-15	-15	14 -14¼
60-62 Blend, 450 end point	-15	-15	14 -14¾
62-64 Blend, 450 end point	-15	-15	14 -14¾
66-68 Blend, 440 end point	-15½	-15½	-15
68-70 Blend, 440 end point	-15½	-15½	-15
68-70 Blend, 420 end point	-16¾	16¼-16½	-15½
OKLAHOMA			
50-52 450 end point	12¾-13	12¾-13	12¼-12¾
56-58 450 end point	13¼-13¾	13¼-13½	13 -13¼
56-58 (New Navy), 437 end point 140 i. b. p.	13½-14	13½-13¾	13¾-13½
58-60 New Navy, 437 end point 140 i. b. p.	13¾-14¼	13¾-14¼	13½-13¾
60-62 400 end point	15¾-16	15¾-16	15½-15¾
64- 66 390 end point	17¾-17¾	17¼-17¼	17¼-17½
NORTH TEXAS			
48-50 460 end point naptha	11 -11½	10¾-11¼	10 -10½
50-52 450 end point naptha	11¼-11¾	11 -11½	10½-11
56-58 450 end point gasoline	13 -13½	12¾-13¼	12½-13
58-60 440 end point gasoline	13¼-13¾	13 -13½	12¾-13¼
60-62 400 end point gasoline	15¼-15¾	15 -15½	15 -15½
64-66 370 end point gasoline	17¼-17¾	17 -17½	17 -17½
New Navy Specification gasoline	13½-14	13¼-13¾	13 -13½

NATURAL GASOLINE

OKLAHOMA			
Grade A, 72-76 under 375 end point recovery 90 per cent	14 -14½	14 -14½	-14
Grade B, 76-80 375 end point, recovery 88 per cent	14 -14¼	14 -14¼	13¾-14
Grade C, 80-84 375 end point recovery 85 per cent	13¼-13½	13¾-13¾	
Grade D 80-84, 330 end point, recovery 80 per cent	12¾-13	12¾-13	12¾-13
Grade E 84-87, 330 end point i. b. p. 65	12½-13	12½-12¾	12¼-12¼
Grade F, 87-90 330 end point i. b. p. not below 60	12¼-12¾	12¼-12½	12 -12½
(Motor Natural Gasoline—Blends)			
Grade 1, 60-62 450 end point i. b. p not less than 87	13 -13½	13 -13¼	12¾-13
Grade 2, 62-66, 450 end point i. b. p not less than 80	13 -13½	13 -13¼	12¾-13
Grade 3, 66-70, 450 end point i. b. p. not less than 70	13 -13½	13 -13¼	12¾-13

BURNING OILS

PENNSYLVANIA			
45 Water White	5¼-5½	5½-5¾	5¾-6
46 Water White	6¼-6½	6½-6¾	-6½
47 Water White	7¼-7½	7½-7¾	7¼-7¼
300 Burning Oils	-7	-7	6½-7
OKLAHOMA			
41-43 Prime White	3⅛-3⅜	3⅛-3⅜	3¼-3½
42-43 Prime White	3⅛-3¼	3⅛-3¼	3⅛-3¼
44-46 Water White	5 -5¼	5 -5¼	4½-5
42-43 Distillate	3⅛-3⅜	3⅛-3⅜	3¼-3½
45-47 Distillate 510 E. P.	5¼-6	5¼-6	5¾-6
46-48 Distillate 480 E. P.	6¼-7	6¼-7	6 -6½
NORTH TEXAS			
40-42 Prime White distillate	2½-3	2½-3	2½-3
41-43 Prime White Kerosene	2¾-3¼	2¾-3¼	2¾-2¾
41-43 Water White Kerosene	3 -3½	3 -3½	2¾-3¼

NEUTRAL OILS

PENNSYLVANIA	Prices Mar. 13	Prices Mar. 6	Prices Feb. 13
(Viscous test 70)			
200 Vis. No. 3. Assoc. Filt.	-22	21 -22	19½-20
180 Vis. No. 3 Assoc. Filt.	19 -20	19 -20	-18
150 Vis. No. 3 Assoc. Filt.	16 -17	16 -17	-16
(Non-Viscous)			
34 350-360 Flash	-7	7 -7½	6½-7
36 Miners Neutrals 300-305 Flash	-6½	-6½	6½
OKLAHOMA			
(Viscous test 100)			
100 Vis. at 100° F. No. 2 Color	5½-5¾	5½-5¾	6 -6½
100 Vis. at 100° F. No. 3 Color	5¾-5½	5¾-5½	5½-6
200 Visc. at 100° F. No. 3 Color	11½-12	11¾-12	11¼-11¾
150 Vis. at 100° F. No. 4 Color	9 - 9½	9 - 9½	8½- 9
200 Vis. at 100° F. No. 4 Color	11 -11½	11 -11½	11 -11¼
200 Vis. at 100° F. No. 5 Color	10¾-11½	10¾-11½	10¾-11
285 Vis. at 100° F. No. 6 Color	13 -13½	13 -13½	14 -14½
SOUTH TEXAS			
(Viscous test 100; cold test 0)			
100 Vis. No. 2 Color Unfilt. Pale	6 - 7	6 - 7	6 - 7
150 Vis. No. 2½ Color Unfilt. Pale	9 -10	9 -10	9 -11
200 Vis. No. 3 Color Unfilt. Pale	11 -13	11 -13	11 -13
300 Vis. No. 3 Color Unfilt. Pale	15½-17	15½-17	16 -17½
500 Vis. No. 3½ Color Unfilt. Pale	20 -22	20 -22	19 -21
750 Vis. No. 4 Color Unfilt. Pale	29 -30	29 -30	29 -31
150 Vis. No. 1½ Color Filt. Pale	-23½	-23½	-23½
200 Vis. No. 2 Color Filt. Pale	-28½	-28½	-28½
300 Vis. No. 2 Color Filt. Pale	-33	-33	-33
500 Vis. No. 2½ Color Filt. Pale	30 -35½	30 -35½	30 -35½
750 Vis. No. 2½ Color Filt. Pale	40 -43½	40 -43½	40 -43½
200 Vis. No. 5½ Color Red Oil	9½-11	9½-11	10 -12
300 Vis. No. 5½ Color Red Oil	13 -15	13 -15	14 -15
500 Vis. No. 6 Color Red Oil	16½-18	16½-18	17 -19
750 Vis. No. 6 Color Red Oil	27 -28	27 -28	27 -28

CYLINDER STOCKS

PENNSYLVANIA			
600 Steam Refined	-11	-11	11 -11½
635 Steam Refined	13½-14	-13½	13½-14
650 Steam Refined	15½-16	15½-16	14½-15½
600 Flash	-20	19 -20	19½-20
600 Warren E.	-19	-19	-19
600 Oil City E	16 -16½	16 -16½	-16
600 Medium Filtered (D)	-24	-24	-24
Cold Test Stocks (bright filtered)	-38	-38	38 -40
Cold Test Stocks (dark filtered)	-35	-35	33 -35
Black Oil	- 6½	- 6½	-6½

WAX

PENNSYLVANIA (Per Pound New York)			
122-124 White Crude Scale	-2¼	- 2¼	- 2¼
124-126 White Crude Scale	-2½	- 2½	- 2½
OKLAHOMA			
122-124 White Crude Scale	1¾- 2	1¾- 2	1¾- 2

FUEL OIL

PENNSYLVANIA			
36-40 Fuel Oil	- 4	3¾- 4	- 4
OKLAHOMA			
32-36 Gas Oil (Gal.)	2¼-. 2¼	2½- 2¼	2¼- 2¾
24-26 Fuel Oil (bbl.)	82½-.87½	.85 - .90	.90- .95
Fuel Oil, buyers cars (bbl.)	82½-.87½	.85 - .90	.90- .95
NORTH TEXAS			
38-40 Straw Distillate	2½- 3	2½- 3	2½- 3
36-38 Gas Oil	2¼- 2¾	2¼- 2¾	2¾- 2¾
32-36 Gas Oil (gal.)	2¼- 2½	2¼- 2¼	2¼- 2½
24-26 Fuel, per bbl.	.70- .75	.70- .75	.75- .80
26-30 Fuel, per bbl.	.75- .85	.75- .85	.80- .90
South Texas Fuel	1.00-1.10	1.00-1.10	1.10-1.25

Mid-Continent Refiners Refuse Gasoline Marginal Contracts

Staff Special

TULSA, March 13

REFINERS in this territory are consistently refusing to consider overtures of jobbers seeking marginal contracts for motor fuel business. They are cheerfully quoting for spot delivery and keeping the jobbers on tender hooks regarding their supply for the season.

Numbers of jobbers have been in the territory during the past week calling on the refiners. A few minor contracts have been signed but the prevailing sentiment among refiners is to watch the situation carefully and wait for a definite turn of events at the close of the month or early in April.

On the other hand jobbers have been partially successful in leading the refiners to believe that they are not interested in lubricating oils. In their visits they have announced that their supply of lubricants now on hand will be largely sufficient to cover their needs for some time.

As a result, the market for refined products has seen little change during the past week, with the notable exception of fuel oil which has weakened even more rapidly than during the past few weeks. Continued bad weather has kept the spot market quiet and no export movements of consequence have developed.

Speculate on Coal Strike

There is a great deal of speculation as to what effect the coal strike called for April 1 may have on the oil business and on oil prices, and speculating is about as far as anyone can go now. General sentiment among refiners and business men is to the effect the strike will have no serious effect on the country's industrial condition. Once in a while someone is found who does look for a serious strike situation, and consequently a serious effect on the oil business.

Fuel oil prices were stimulated a few weeks ago by the possibility of a strike and have since reacted. There were many inquiries for quotations and terms of delivery from Mid-Continent refiners, but not a great deal of actual buying. Between coal stocks above ground and fuel oil stocks, which have accumulated pretty consistently for two years now, the needs of the country, based on its present rate of industrial activity, should be taken care of for at least a period after a strike actually comes without any disruption of price schedules. Such a disruption, if it comes in fuel oil prices, will be largely psychological and is to be deplored, for its general effect on big industrial users of this product.

Refiners in the Mid-Continent field are now appreciating that the jobbers in Colorado are so situated this season that they will be unable to buy their gasoline in this district, even at the present level of gasoline prices, to say nothing of taking care of later advances this spring and summer.

Some of the refiners look upon conditions as they have worked out in Colorado as a manipulation on the part of the Standard Oil interests to force the 75 jobbers or so in the state to buy their gasoline from Wyoming through the Continental Oil Co., the marketing subsidiary of the Standard in Rocky Mountain territory.

The state of Colorado consumes around five to six million gallons of gasoline a month. In the last two or three years the Mid-Continent refiners have supplied the biggest share of the stuff marketed by the Independent jobbers there. The margin has been fairly low in the state the past year, but still sufficient to allow the Independent jobber to buy his stuff in north Texas or Oklahoma and squeeze a little profit out of the deal. Along last December, however, the Continental Oil Co. chopped a cent and a half off the tank wagon market in Colorado alone, bringing the price to 21 cents. At this price the jobber there cannot buy on a 14-cent spot market for navy at Mid-Continent points, and pay almost 6 cents freight, and a state road tax and inspection fee, and come out even, let alone make any money.

The result has been to force the jobbers in that state, except in a few instances where they are protected by marginal contracts on which the refiner who ships them must lose money to seek their gasoline supply for this spring and summer at Wyoming points. The Midwest Refining Co. will not sell them direct, but the Continental Oil Co. is offering to take care of them on a 3¼ cent margin. The recent move of the railroads in Wyoming in announcing a reduction in the rate from Casper to Colorado points from 52 to 40 cents a hundred weight, to take effect about this time, would have helped the Standard interests in Wyoming. Railroads not reaching into Wyoming have asked for a suspension of the proposed reduction, however.

Optimism is shown in the future of the gasoline market and the growing weakness of fuel oils strengthens the belief of many that Mid-Continent light crudes will not suffer a cut. This belief is based on the fact that refiners will desire to increase gasoline gallonage to the highest point in comparison to the output of fuel. They feel that whatever may happen to the market for heavy crudes the price will remain for those grades which have a large gasoline content.

Gasoline sales were relatively unimportant again and prices for new Navy were slightly under those prevailing the week before. Virtually all gasoline except that shipped out for current usage was run to storage.

Stocks of 60 and 64 grades of gasoline appear to have been all expended by export movements. Agencies seeking these grades, are finding difficulty in meeting their needs.

Natural gasoline grades have strengthened materially at the opening of the new week after a period of dull trad-

(Continued on page 102)

Business Quiet At Eastern Plants; Gasoline And Neutrals Stronger

Staff Special

CLEVELAND, March 15.—The past week showed trading proceeding at the western Pennsylvania plants on about the same scale as the preceding week, the only exceptions being that the demand for gasoline strengthened somewhat, with a sympathetic stimulation of prices, and the viscous neutrals maintained the record they have been establishing the past few weeks, of advancing somewhat in price each week.

The cylinder stocks failed to reflect any of the strength of the neutrals and remained at about the same level as for the past several weeks. Industrial plants are not operating at a point yet that they are able to absorb the normal amount of the steam cylinder oils, the export business is dull and the season when the stocks are an important factor in the compounding of motor oils has not yet arrived. The best estimates from eastern refiners are, however, that the storage of cylinder stocks on hand has been brought down considerably during the past few months and the time ought not to be far away when the demand and price of these products will strengthen considerably.

Kerosene showed further weakening and unless the element for it as tractor fuel increases during the summer in the territory that can be advantageously reached by the eastern refiners to a point where the Kentucky refineries are unable to take care of it, it appears that burning oil will remain dull all summer for the western Pennsylvania refineries. Such a strengthening of demand is rather unlikely as the marketing territory reached by these plants is not primarily tractor country.

Fuel oil during the week barely maintained the level it has held for the past few weeks and demand for it was weaker if anything than a week ago. The general market is reported at 4 cents a gallon with considerable probably moving at 3¾ cents. The cloud of the threatened coal miners strike is apparently not attracting any attention as yet from the big consumers of fuel, which means that if the strike comes there is likely to be a sudden spurt in the market.

Altogether, the Pennsylvania refiners are looking forward with considerable confidence to the coming season, although they believe prices will have to scale up considerably to bring them into justifiable proportion to the price of Pennsylvania crude. At present there seems to be little indication that the price of this crude will come down.

Kentucky

The Kentucky refiners experienced a little slowing up of business at the beginning of last week and some of them ran two or three days output of gasoline to storage. However, the demand picked up toward the end of the week and the beginning of this week found them with their storage tanks practically dry and stuff moving direct to the tank cars from the agitators.

Many jobbers are seeking contracts for long periods and failing that, to cover April requirements but none of the refiners will talk on that basis. New Navy gasoline is bringing from 15¾ to 16½ cents at the Kentucky plants and kerosene, 5 to 5½ cents. Fuel oil is bringing around 3 to 3¼ cents, with most of the plants running their output to storage.

Tank Wagon, Service Station Markets

Gasoline and Kerosene

BELOW are given in cents a gallon service station and tank wagon quotations on gasoline and tank wagon quotations for kerosene, as quoted by the Standard Oil Companies, the points at which prices are given being arranged by Standard Oil marketing districts. By tank wagon price is meant the price to reselling agents and not the price from the tank wagon to consumers.

S. O. NEW JERSEY DISTRICT

	Gasoline T.W. Mar. 13	Gasoline S.S. Mar. 13	Oil T.W. Mar. 13
Atlantic City, N. J.	23	25	12
Newark, N. J.	23	25	12
Annapolis, Md.	23	25	11.5
Baltimore, Md.	22	24	10.5
Washington, D. C.	22	24	11
Danville, Va.	22	24	12.5
Norfolk, Va.	22	24	11
Richmond, Va.	22	24	11
Roanoke, Va.	23	25	13
Petersburg, Va.	22	24	11.5
Charleston, W. Va.	21	23	12
Keyser, W. Va.	23	25	11.5
Parkersburg, W. Va.	21.5	23.5	10.5
Wheeling, W. Va.	20	22	12
Charlotte, North Carolina*	22.5	24.5	12
Hickory, N. C.	23	25	10.5
Mt. Airy, N. C.	23	25	12.5
Salisbury, N. C.	23	25	12.5
Charleston, S. C.	21.5	23.5	10
Columbia, S. C.	23.5	25.5	12

S. O. NEW YORK DISTRICT

†New York, N. Y.	24	26	14
Albany, N. Y.	24	26	14
Buffalo, N. Y.	20	22	14
Boston, Mass.	24	26	15

Note—The official tank wagon price of gasoline as quoted at 26 Broadway and at the Albany office by the Standard of New York is 24 cents. However the above figures at Albany and Buffalo are those at which the Standard is actually selling gasoline to dealers at the points designated.
†Note—Prices in Steel Barrels.

ATLANTIC REFINING DISTRICT

Pittsburgh, Pennsylvania*	23	26	14
Philadelphia, Pa.	23	26	14
Dover, Del.	23	26	14
Wilmington, Del.	23	26	14
Providence, R. I.	24	27	15
Springheid, Mass.	24	27	15
Worcester, Mass.	24	27	15
Hartford, Connecticut*	24	27	15
New Haven, Conn.	24	27	15

Note—The five New England towns named above are the principal Marketing points in Atlantic Refining Company's New England territory. S. O. New York also markets at these points.

S. O. OHIO DISTRICT

Cleveland, Ohio	22	23	14

Note—Tank wagon markets at all points in Ohio are the same as for Cleveland.

S. O. KENTUCKY DISTRICT

Lexington, Kentucky*	22	24	12
Louisville, Ky.	21	23	12
Covington, Ky.	21	23	13.5
Jackson, Mississippi*	20.5	22.5	12.5
Natchez, Miss.	20	22	12.5
Vicksburg, Miss.	20	22	12.5
Birmingham, Alabama*	22	24	14
Mobile, Ala.	19	21	12.5
Montgomery, Ala.	21	23	14.5
Atlanta, Grorgia*	23	25	14
Augusta, Ga.	22	24	14
Macon, Ga.	22	24	14
Savannah, Ga.	20	22	12
Jacksonville, Florida*	21	23	12
Miami, Fla.	24	26	15
Tampa, Fla.	21	23	12

S. O. LOUISIANA DISTRICT

Camden, Arkansas	20	23	13
Little Rock, Ark.	20	23	13
Alexandria, La.	20	23	12
Baton Rouge, La.	18.5	21.5	10.5
Lake Charles, La.	20.5	23.5	12.5
New Orleans, La.	19.5	22.5	10
Shreveport, La.	20	20	12
Bristol, Tenn.	25	28	15
Chattanooga, Tenn.	21	24	14.5
Knoxville, Tenn.	21.5	24.5	15
Nashville, Tenn.	20	23	13
Memphis, Tenn.	19.5	22.5	12.5

MAGNOLIA PETROLEUM DISTRICT

	Gasoline T.W. Mar. 13	Gasoline S.S. Mar. 13	Oil T.W. Mar. 13
Muskogee, Ok.	18	21	11
Oklahoma City, Ok.	16	19	10
Tulsa, Ok.	16	19	11
Pine Bluff, Arkansas*	20	23	13
Fort Smith, Ark.	20	23	12
Little Rock, Ark.	18	21	13
Texarkana, Texas	20	23	13
Amarillo, Texas	19	22	13
Dallas, Texas	18	21	12
El Paso, Texas	20	23	15
Fort Worth, Texas	18	21	10
Galveston, Texas	19	22	12
Houston, Texas	18	22	12
San Antonio, Texas	17	20	12

S. O. INDIANA DISTRICT

Chicago, Ill.	19.5	21.5	11.5
East St. Louis, Ill.	18.45	20.7	11.1
Evansville, Ind.	20.6	22.6	12
Indianapolis, Ind.	20.8	22.8	12.2
Fort Wayne, Ind.	21	23	12.4
Bay City, Mich.	21.3	23.3	12.6
Grand Rapids, Mich.	21.1	23.1	12.4
Detroit, Mich.	21.2	23.2	12.5
Battle Creek, Mich.	20.9	22.9	12.2
St. Louis, Mo.	19.9	22.9	11.2
Kansas City, Mo.	19.2	21.2	10.5
Topeka, Kansas	20.1	22.1	11.1
Whichita, Kans.	20.3	22.3	11
Des Moines, Ia.	21.4	23.4	12.4
Keokuk, Ia.	21.4	23.4	12.1
Sioux City, Ia.	21.4	23.4	12.4
La Crosse, Wis.	22	24	13.1
Milwaukee, Wis.	20.9	21.9	12
Madison, Wis.	21.1	23.1	12.2
Minneapolis, Minn.	21.7	23.7	13
Pipestone, Minn.	21.7	23.7	12.9
Aberdeen, South Dakota*	23.5	25.5	13.5
Sioux Falls, S. D.	21.9	23.9	12.9
Bismarck, N. D.	26.1	27.1	16.3
Fargo, N. D.	24.5	26.5	14.7
Grand Forks, N.D.	24.8	26.8	15
Minot, N. D.	26.8	28.8	17
Bartlesville, Ok.	19.5	21.5	10.7

S. O. NEBRASKA DISTRICT

Crawford, Neb.	20.5	21.5	13.75
Omaha, Neb.	20	22	12.5

CONTINENTAL OIL DISTRICT

Denver, Colorado*	21	23	15
Glenwood Springs, Colo.	26	28	20
Pueblo, Colo.	21	23	15
Basin Wyo.	20	†	14.5
Casper, Wyo.	17.5		12.5
Cheyenne, Wyo.	20		14
Cody, Wyo.	22		16.5
Lander, Wyo.	20		15
Billings, Montana*	23.5	25.5	16.5
Butte, Mont.	24.5	26.5	18.5
Great Falls, Mont.	25.5	27.5	18.5
Helena, Mont.	25.5	27.5	18.5
Miles City, Mont.	25.5	27.5	18.5
Ogden, Utah	25.5	27.5	17.5
Salt Lake City, Utah	25.5	27.5	17.5
Boise, Idaho	25.5	27.5	20
Albuquerque, New Mexico*	25	27	16

†Note—Continental Oil Co. Maintains no filling stations in Wyoming.

S. O. CALIFORNIA DISTRICT

Phoenix, Arizona*	26.5	28.5	21
Los Angeles, Cal.	21	23	14.5
Fresno, Cal.	21.5	23.5	17
San Francisco, Cal.	21	23	14.5
Reno, Nev.	25	27	18.5
Portland, Oregan*	24	26	15.5
Seattle, Washington	23	25	15.5
Spokane, Wash.	27	29	20
Tacoma, Wash.	23	25	15.5

*Note—Besides the inspection fees collected from oil marketers, which vary from one eighth of a cent to 1 cent and a half a gallon in different states, 14 States levy an additional tax on gasoline, usually for road purposes. In Oregan and New Mexico the tax is 2 cents a gallon. It is 1 cent a gallon in Arizona, Arkansas, Colorado, Florida, Georgia, Kentucky, Montana, North Carolina, South Dakota and Washington. It is included in the tank wagon price in those states. In Pennsylvania and Connecticut, the 1 cent road tax is collected separately.

Magnolia Makes 2-cent Local Tank Wagon Cuts

DALLAS, March 13.—The Magnolia Petroleum Co. on March 6 reduced the tank wagon price of gasoline 2 cents in Oklahoma City, bringing the price to 16 cents and the filling station price to 19 cents. On March 10, the Magnolia reduced the tank wagon price of gasoline 2 cents a gallon at Little Rock, Ark., bringing the tank wagon price there to 18 cents and the filling station price to 21 cents.

* * *

CHICAGO, March 13.—Standard Oil Co. of Indiana today advanced the service station price of gasoline sufficiently to make a 2-cent margin between the tank wagon and service station prices. The amount of the increase was 1 cent, except at points where fractional prices had prevailed.

In Iowa, the company advanced tank wagon prices three tenths of a cent to cover the cost of country hauls. Beginning today, customers on tank wagon routes, out of the different towns will be served at the same prices as customers in the town. It is expected this will eliminate much misunderstanding and may be extended later to other states.

* * *

BALTIMORE, March 13.—The Standard Oil Co. of New Jersey, effective March 4 reduced the price of gasoline 2 cents in Charleston and Wheeling, W. Va. Kerosene was not changed.

Petroleum Imports

NEW YORK, March 9.—Imports of petroleum into the United States in February totaled 10,579,000 barrels, a daily average of 377,822 barrels, according to the figures collected by the American Petroleum Institute. Of this amount, 6,400,000 barrels were received at Atlantic ports and 4,179,000 were received at Gulf ports. For the week ended March 4 imports were 2,498,000 barrels or a daily average of 356,857 barrels, showing a slight decline from the week ended Feb. 25 when imports were 2,727,500 barrels or a daily average of 388,643. The Institute's figures in thousands of barrels of 42 U. S. gallons each, show:

	Total February	Week Ended Mar. 4	Week Ended Feb. 25
Atlantic Ports			
Baltimore	927	215	195
Boston	962	145	133
New York	3,019	1,022	570
Philadelphia	719	115	168
Other	773	358	66
Total	**6,400**	**1,855**	**1,132**
Daily average	**228**	**265**	**161**
Gulf Ports			
Galveston district	874	184	350
New Orleans and Baton Rouge	1,611	316	486
Port Arthur and Sabine district	1,694	83	752
Tampa		60	
Total	**4,179**	**643**	**1,588**
Daily average	**149**	**91**	**226**
All U. S. Ports			
Total	**10,579**	**2,498**	**2,720**
Daily average	**377**	**356**	**388**

Mid-Continent Markets

(Continued from page 100)

ing. Kerosene remains unchanged with no sales reported although refiners are cheered by the news that Texas refiners have virtually expended their surplus stocks on export movements and that shipments from that territory are on a current basis. Some feel that the export demand may reach into Oklahoma for this product.

Numerous small orders for neutral oils were placed by jobbers during the week but prices showed no change as a result. Statements of the jobbers that are buying, that their needs, will not be great, are credited with the failure of the first small demand for domestic use to bolster up the lubricating oil situation. No further export movements have developed or are in prospect. Despite the fact that a number of industries entered the fuel market during the week and placed orders covering their needs for the next quarter, the price continued to weaken throughout the period. Packing interests were reported to be buying for use until June. Details of a sale of fuel to the Frisco said to have been made at Ft. Worth, Tex., were not available.

Demand For Chemicals Growing More Steady

By Special Correspondent

NEW YORK, March 13.—With the exception of bleaching powder, the majority of supplies was well maintained. Spirits of turpentine, linseed oil, and benzol as well as most of the chemicals are in steadier demand. However, no no further price changes were heard of, though many observers expect $1 linseed oil before summer, basing their predictions on the bullish Argentine seed outlook.

Chemicals

Benzol is still the chief feature of this department. There continues to be an incessant demand with producers heavily sold for sometime ahead. Small, as well as large, buyers find difficulty in securing stocks of benzol and while no further price changes were heard of, quotations are very firmly held. Resale offerings are scarce at around 35 cents for 90 per cent. Producers are asking 32 to 35 cents for pure water white, and 27 to 32 cents for 90 per cent.

Bleaching powder remains soft. Offerings of imported material were reported at $1.80 to $1.90 a hundred pounds ex dock, while small sales were reported at as high as $2. Domestic at the works was offered at $1.75. Soda ash was very quiet. Light ash, 48 per cent, at the works, was quoted at $1.10 in bulk; $1.20 in bags, and in barrels at $1.40. Spot, 58 per cent, sold at $1.65 ex store. Sulphuric acid is enjoying a slightly better demand. The fertilizer trade, however, showed little interest. Caustic soda is decidedly firmer, and it is said that there is a fairly large short interest in March caustic soda. The belief prevails that prices will climb a little higher in the near future. April shipments were offered at around $3.50 and $3.60 f. a. s. First hands were asking $3.62½ for caustic flakes in drums at the works.

Naval Stores and Oils

Spirits of turpentine worked up to 88½ cents as compared with the 85-cent price of the previous week. The Southern markets were a little firmer while local demand was slightly more active. Stocks were of moderate proportions.

Linseed oil was unchanged at 84 to 86 cents a gallon for raw oil in carlots, cooperage basis, nearby delivery. Demand was a shade better but no heavy trading developed. Consumers are reluctant to pay present prices while a few observers look for advances. English oil has been selling quite freely around 74 cents. Lard oil export demands have been more active and prices are holding up well. There is more interest in stearic acid and neatsfoot oil.

Refiners' and Jobbers' Supplies

Following are the average market prices for the week on the principal materials used by refiners and jobbers, f. o. b. shipping point as effective this date.

Benzol

	Mar. 13	Mar. 6
Pure Water White,	32-34	32-34
90 Per Cent	27-32	27-33
†Spot, 90 Per Cent	Nominal	40

Refiners' Supplies

Soda Ash, light	$1.80-2.10 cwt.	$1.80-2.10	cwt.
Silcate of Soda 60 deg.	2.30 cwt.	2.25	cwt.
Sal. Soda	1.60-1.70 cwt.	1.40-1.80	cwt.
Chloride of Lime	$1.75-2.00 wt	2.00 $2.25	cwt.
Caustic Soda 76%	3.65 cwt.	-3.45	cwt.
Sulphuric Acid 60 deg. tank cars f. o. b. sellers' shipping point	10.00-11.00	—10.00—11.00	

Jobbers' Supplies (Open Market)

English Degras	4c lb.	4c lb.	
Domestic Degras, bbls, carloads	4½c lb.	4¼c	b.
Horse Oil	6¼c lb	6c	lb
Lard Oil—			
Ex. Winter strained	$ .92	$ .92	gal.
Extra No. 1	.77 gal.	.77	gal.
No. 1	.72 gal.	.72	gal.
No. 2	.70 gal.	.70	gal.
Prime Packer Tallow cases f.o.b New York	.08 gal.	.7¾	gal.
Edible Lard Oil	1.12 gal.	1.12	gal.
Tallow Oil acid less	.72gal.	.72	gal.
Stearine Lard	.13½ gal.	.13½	gal.
leo	.10½ gal.	.11	gal.
Neatsfoot Oil—			
Cold pressed	$1.40 gal.	1.40	gal.
Pure	1.35 gal.	1.27	gal.
Menhaden Fish Oil—			
Light pressed	.56 gal.	.53	gal.
Brown	.52 gal.	.50	gal.
Yellow bleached	.59 gal.	.55	gal.
Whale Oil—			
Extra winter bleached	.75-.75 gal.		
Soya Bean Oil Spot NY bbls.	Nominal	Nominal	
Herring Oil, tank cars coast	$5- .55		gal.
Seal Oil	Nominal.		
Linseed Oil	.84 .86 gal.	.84 .86	bbl.
Rosin B. N. Y.	5.30 bbl.	5.30	bbls.
Rosin F. N. Y.	5.35 bbl.	5.35	bbls.
*Rosin B	4.15 bbl.	4.05	bbl.
*Rosin F	4.15 bbl.	4.10	bbl.
Rosin Oil 1st run	.36 gal.	.36	gal.
Rosin Oil 2nd run	.39 gal.	.39	gal.
Turpetine, N. Y.	.88½gal.	.85½	gal.
*Turpentine	.80¾gal.	.	gal.
Pine tar—			
Kiln Burnt, bbls	$10.00	$10.00	
Retort Tar, bbls	9.00	9.00	

*Savannah, Ga., Market

Washington Oil Shows $30,000 Deficit In 1921

PITTSBURGH, March 9.—The Washington Oil Co., a Standard organization engaged in production in the old Pennsylvania fields, suffered a net loss of $30,073 in 1921, the result of the great decline in the price of Pennsylvania crude. In 1920 the net profit was $64,076 on the $100,000 capital stock. The company's inventory jumped from $64,732 in 1920 to $119,446 in 1921 but the cash account shrank from $72,572 to $4,775. The increase in the inventory is due to the holding of stocks of crude because of the decrease in the demand for lubricating oils last year. The book value of the stock was $18.35 on Dec. 31, par value $10. The income account folows:

	1921	1920
Gross Income	$119,975	$212,729
Operating Expenses, Taxes, Depr. and Depl.	150,048	148,653
Net loss for Year	**$30,073**	***$64,076**

*Net income.

The balance sheet as of Dec. 31 shows:

ASSETS

	1921	1920
Property	$55,859	$73,206
Stock in other Co.'s	28,245	19,681
Materials, Merchandise, Oil Stock, etc	119,446	64,732
Cash	4,775	72,572
Accounts Receivable	6,793	17,033
Total	**$215,118**	**$247,224**

LIABILITIES

	1921	1920
Capital Stock	$100,000	$100,000
Accounts Payable	31,576	33,609
Surplus	83,542	113,615
Total	**$215,118**	**$247,224**

Stock Dividend Cuts Nebraska S. O. Surplus

OMAHA, Neb., March 10.—The payment of a 200 per cent stock dividend by the Standard Oil Co. of Nebraska in May, 1921, reduced the surplus account almost $2,000,000, the balance sheet as of Dec. 31 shows. A 10 per cent cash dividend also was paid. The balance sheet shows:

ASSETS

	1921	1920
Plant, (less depreciation)	$2,261,837	$1,931,729
Merchandise	1,179,973	1,775,339
Cash	1,093,192	1,063,638
Accounts Receivable	420,705	649,683
Investments in Bonds	428,971	425,769
Total	**$5,384,680**	**$5,846,138**

LIABILITIES

Capital Stock	$3,000,000	$1,000,000
Accounts Payable	342,511	547,095
Reserve for Federal Taxes	94,395	518,574
Surplus	1,947,772	3,780,466
Total	**$5,384,680**	**$5,846,138**

INDIANAPOLIS, IND., March 10.—The Crescent Oil Co., 520 W. Wyoming street, announces that its laboratory has developed an oil that eliminates band chattering on Ford automobiles.

Export Price Of High Gravity Gasoline Raised Cent A Gallon

By Special Correspondent
NEW YORK, March 13

EXPORT business was lighter last week with few cargo sales reported, the bulk of the trading being confined to small quantities. Foreign buyers manifested a keen academic interest but were not inclined to purchase as heavily as in the previous week. The explanation was the fall in foreign exchange rates. At the close of the week, sterling was around $4.36 as against the $4.44 peak the previous week.

One of the important developments was the announcement March 8 by the Standard Oil Co. of New Jersey of an advance of 1 cent a gallon in the export prices of high gravity gasolines. Kerosene was unchanged. No open revisions were reported in bunker or gas oils.

The demand from the Orient continues to be good regardless of the let-up in the European request. The Japanese buyers are following the trend of the local market very closely as is evidenced by the steady stream of inquiries which very often develop into good sized sales. Comparatively few demands were received from China. Buyers with connections in Asia Minor are purchasing cased gasoline freely. Cased products in general are coming into better demand.

Reports emanating from abroad indicate that Polish wax is being offered freely, f. o. b. the Polish border, in competition with the American waxes. Demand for the wax is better and quotations are fairly well maintained. Match waxes are still scarce.

British buyers are "feeling out" the illuminating oil market. While there were rumors of cargo sales, no transactions were confirmed. Many of the bigger European consumers will probably hold off until there is another advance in exchange, as the present setback in sterling is considered by many to be but temporary. French buyers were not inclined to purchase much of anything last week. Italian consumers are inquiring more freely which is taken as favorable. Inquiries from German sources are decidedly more numerous and there were reports of cargo sales of lubricating oils in this direction also but confirmation was lacking. Scandinavian buyers in general did not appear interested.

Kerosene and Gasoline

Among the larger arrivals of petroleum at London during the week ended Feb. 20 were: 849,730 gallons of benzine to the Shell Marketing Co., Ltd., from Rangoon; 2,307,810 gallons of benzine, bulk, to the same company, from Abadan, and 1,535,100 gallons of gasoline to the British Petroleum Co., from New Orleans. Liverpool receipts included 513,240 gallons of gas oil, in bulk, to the Anglo American Oil Co. from Baton Rouge. Among the Bristol receipts were 520,000 gallons of gas oil in bulk, to the Anglo American Oil Co. from New Orleans, and 377,550 gallons gasoline to the Shell Marketing Co. from Abadan. At Hull, 1,139,610 gallons of gas oil were received by the Anglo-Mexican Petroleum Co.,Ltd., from Puerto Mexico, and the same company got 653,280 gallons of fuel oil from Tampico.

Both gasoline and kerosene were less active. Gasoline, however, was appreciably stronger, regardless of the smaller foreign demand. The advance of 1 cent a gallon in high gravity gasoline export prices, brings this product in cargo lots for export up to 19½ cents; 63-66 degrees to 22½ cents and 66-68 degrees to 23½ cents a gallon. The price of new Navy, in bulk, delivered New York, was quoted from 18½ cents to 19¼ cents

Kerosene failed to show any marked improvement. Both export and domestic demands were lighter. Export prices were soft. Water white in cases was held at around 17.50 cents.

New York Market

The following represent prices quoted by eastern seaboard Independent refiners on products which are manufactured almost entirely from Mexican crude transported from Tampico to the refinery by tanker. These products are being sold to an increasing extent to jobbers in New York territory.

	Mar.13	Mar.6
*Gasoline (New Navy) gal.	18½-19¼c	18½-19c
‡Bunker oil (F. A. S. New York) bbl.	$1.05	$1.05
Gas Oil (36-40 refinery) gal.		4½
Kerosene, 45-150 W W. Bulk Del N.Y.	7 – 7¼c	7¼c
Cylinder, 600 S.R. Bbl. N.Y.	18¾-19c	18¾-19c

*Delivered
‡Nominal

Export Markets

The following export quotations are those of the New York Produce Exchange, which are furnished by the export departments of the Standard of New Jersey and the Tide Water Oil Companies.

Illuminating Oils

Quotations are based on the following quotations: Bulk, tank, steamers, barrels; cargo lots, about 80,000 barrels; cases cargo lots averaging about 100,000 cases. Quotations are for standard white 110 flash test.

S.O.N.J.	Mar.13	Mar. 6
Bulk, gal., Bayonne	$7.00	7.00
Barrels, gal., Bayonne, cargo	13.00	13.00
Cases gal. Bayonne	16.50	16.50

Prices for water white oil (150 test) are 1 cent higher than those for standard white.

GASOLINE-NAPTHA
(Cents per Gallon)

Standard New Jersey, f. o. b. Bayonne

U. S. Navy, bulk	17.00	17.00
U. S. Navy, cases	30.25	30.25
Export grade, bulk	19.50	18.50
63-66 deg. bulk	22.50	21.50
66-68 deg. bulk	23.50	22.50

Tide Water Oil Company (f. o. b. Bayonne)

59-61 deg. bulk	17.50	17.50
59-61 deg. cases	30.25	30.25
Export grade, Navy Specifications, bulk	17.00	18.00
63-65 deg. bulk	21.25	20.25
68-72 deg. bulk	23.50	22.50

Kerosene	Bulk	Barrels	Cases
Standard white 110	7.00	15.00	16.50
Water white 150	8.00	14.00	17.50

The Texas Company

Gasoline, cases		30.25	30.25
Kerosene	Bulk	Barrels	Cases
Standard White	7.00	13.00	16.50
Prime White	7.50	13.50	17.00
Water White	8.00	14.00	17.50

Bunker and Gas Oils

One large Independent claimed to have closed a sale of 100,000 barrels for delivery over the next few months at $1.10.

Sales from 15,000 to 45,000 barrels of bunker oil are said to have been made at $1.05 last week. Stocks of bunker oil are large as Mexican crude is coming in in large quantities. Marine demand has been disappointing while few export negotiations or even inquiries were heard of. Gas oil is more or less nominal with business chiefly confined to a few small sales here and there: refiners are asking 4½ cents a gallon.

Lubricating Oils

Export inquiries for lubricating oils are more numerous but actual demand is confined to small quantities, in most instances for a few hundred barrels, for near-by requirements. Cylinder 600 S. R. is selling at around 18¾ cents a gallon while some refiners are asking 19¼ cents. No cargo dealings were confirmed although there were reports current that some bulk business had gone over. Spindle oils are moving a little more freely. Red oils are unchanged. Demand is spasmodic and unusually confined to small quantities. Black oil is dull and unchanged at 9 cents in bulk, New York. Foreign buyers are apparently content to hold off pending further developments in exchange before taking on large quantities. Stocks of lubricants are in fairly firm hands.

Medicinal Oils and Waxes

Petrolatums and medicinal oils were not in heavy demand. Prices held up well and snow white was quoted at 12 to 13 cents, New York. Lily white was dull and rather easy although no fluctuations were heard of. The waxes have been moving in a falrly steady way.

Tankers

Texas, Gulf Refining and Sinclair companies are running 17 vessels each. Standard Oil of New York as well as New Jersey have not announced any alterations. Mexican Petroleum is also operating the same number this week as last. Tide Water is running five ships of its own and one chartered ship.

Gulf Coastal Exports Gain During February

HOUSTON, March 13.—Conditions in the south Texas lubricant markets were without material change over the week as compared with the preceding week. Inquiry rather than actual sales governs the jobbing interest in lubricants and much of future situation depends upon export conditions.

NEW YORK, March 11.—The consolidated income account of the Indiahoma Refining Co. for the 11 months ended Nov. 30, 1921, submitted to the New York Stock Exchange along with an application to list $2,500,000 additional common capital stock, shows net earnings after interest charges but before depreciation and depletion, of $327,190. Gross earnings were given as $545,544; interest $218,354; dividends, $300,000, and surplus $27,190.

BEACON, N. Y., March 10.—The Consumers Service Stations, Inc., have installed a service station at Beacon under the management of G. Capell.

CRUDE OIL PRICES

EASTERN FIELDS

	1922 Mar. 6	1921 High	1921 Low	1920 High	1920 Low
Pennsylvania	$3.25	Jan. 1...$6.10	June 29...$2.25	Mar. 2..$6.10	Jan. 1.....5.02
Cabell	2.11	Jan. 1....4.46	June 29....1.11	Oct. 11..4.46	Jan. 1.....3.40
Corning	1.90	Jan. 1....4.00	June 29....4.20	May 15..4.25	Jan. 1.....3.50
Somerset	1.90	Jan. 1....4.50	June 29....1.00	Oct. 11..4.50	Jan. 1.....3.25
Somerset Light	2.15	Jan. 1....4.25	June 29.... .90	Sept. 25..4.25	Jan. 1.....3.25
Ragland	1.00	Jan. 1....2.60	June 29.... .60	Sept. 25..2.60	Jan. 1.....1.75

CENTRAL STATES FIELDS

Wooster	$2.60	Jan. 1...$4.05	June 27...$1.80	Mar. 10.$4.05	Jan. 1....$3.45
Lima	2.48	Jan. 1....3.73	June 27....1.58	Mar. 10..3.73	Jan. 1.....2.98
Indiana	2.28	Jan. 1....3.63	June 27....1.58	Mar. 10..3.63	Jan. 1.....2.88
Princeton	2.27	Jan. 1....3.77	June 27....1.27	Mar. 10..3.77	Jan. 1.....3.02
Lodi	2.60	Jan. 1....4.00	June 27....1.80	Dec. 4.00	July.....4.00
Illinois	2.27	Jan. 1....3.77	June 27....1.27	Mar. 10..3.77	Jan. 1.....3.02
Waterloo, Ill	1.75	Jan. 1....1.75	June 27.... .75		
Plymouth	1.65	Jan. 1....3.48	June 27.... .65	Mar. 3...3.48	Jan. 1.....2.78
Canadian Petrolia	2.88	Jan. 1....4.13	June 27....1.98	Mar. 10..4.13	Jan. 1.....3.38
Western Ky	1.90	Dec. 1...2.40	June 27.... .58		

MID-CONTINENT FIELDS

Oklahoma-Kansas	$2.00	Jan. 1...$3.50	June 15...$1.00	Mar. 1..$3.50	Jan. 1....$3.00
Hewitt	2.00	Jan. 1....3.50	June 15....1.00	Apr. 8...3.50	Jan. 1.....2.00
Healdton	1.00	Jan. 1....2.75	June 21.... .60	Mar. 1...2.75	Jan. 1.....2.00

Gulf is paying $2.25 for Oklahoma-Kansas crude above 38°.

NORTH TEXAS FIELDS

Burkburnett	$2.25	Jan. 1...$3.50	June 4....$1.00	Mar. 1..$3.50	Jan. 1....$2.75
Electra	2.25	Jan. 1....3.50	June 4.....1.00	Mar. 1...3.50	Jan. 1.....2.75
Corsicana, light	1.30	Jan. 1....3.00	June 24.....85	Mar. 1...3.00	Jan. 1.....2.75
Corsicana, heavy	.75	Jan. 1....1.75	June 1.....85	Mar. 1...1.75	Jan. 1.....1.30
Ranger	2.25	Jan. 1....3.50	June 21....1.00	Mar. 1...3.50	Jan. 1.....2.75
Strawn	2.25	Jan. 1....3.50	June 21....1.00	Mar. 1...3.50	Jan. 1.....2.75
Moran	2.25	Jan. 1....3.50	June 21....1.00	Mar. 1...3.50	Jan. 1.....2.75

NORTH LOUISIANA FIELDS

Caddo above 38	$2.00	Jan. 1...$3.50	June 27...$1.25	Mar. 15.$3.50	Jan. 1....$2.75
Caddo 35 to 37.9	1.90	Jan. 1....3.40	June 27....1.15	Mar. 15..3.41	Jan. 1.....2.65
Caddo 32 to 34.9	1.85	Jan. 1....3.35	June 27....1.10	Mar. 15..3.35	Jan. 1.....2.65
Caddo, heavy	1.25	Jan. 1....2.50	June 18.... .60	May 10..2.50	Jan. 1.....1.25
DeSoto	2.00	Jan. 1....3.40	June 27....1.15	Mar. 15..3.40	Jan. 1.....2.64
Homer 36 and above	2.00	Jan. 1....3.25	June 27....1.00	Mar. 15..3.25	Jan. 1.....2.50
Bull Bayou	1.90	Jan. 1....3.15	June 27.... .90	Mar. 15..3.15	Jan. 1.....2.50
Crichton	1.75	Jan. 1....3.00	June 27.... .75	Mar. 15..3.00	Jan. 1.....2.25
Haynesville, 34° and above	1.85	Nov.8....1.85	Oct. 1.....85	.....	.....
Haynesville, below 34°	1.75	Nov.8....1.75	July 1.....75	.....	.....
El Dorado (Arkansas), 34 Be' and Above	2.00	Nov.8....2.00	July 1.....90	.....	.....
Eldorado (Arkansas), below 34 Be'	1.75	Nov.8....1.75	July 1.....80	.....	.....

GULF COASTAL FIELDS

Spindletop	$1.25	Jan. 1...$2.50	June 13...$ .80	Apr. 15.$3.00	Jan. 1....$1.50
Goose Creek	1.25	Jan. 1....2.50	June 13.... .80	Apr. 13 .3.00	Jan. 1.....1.50
Sour Lake	1.25	Jan. 1....2.50	June 13.... .80	Apr. 13 .3.00	Jan. 1.....1.50
Humble	1.25	Jan. 1....2.50	June 13.... .80	Apr. 13 .3.00	Jan.1.....1.50
Batson	1.25	Jan. 1....2.50	June 13.... .80	Apr. 13 .2.75	Jan. 1.....1.50
Hull		Jan. 1....2.50	June 13.... .80	Apr. 13 .3.00	Feb. 18...2.00
West Columbia	1.25	Jan. 1....2.50	June 13.... .80	Apr. 13 3.00	Jan. 1.....1.50
Edgerly	1.25	Jan. 1....2.50	June 13.... .80	Apr. 13 .3.00	Jan. 1.....1.50
Vinton	1.25	Jan. 1....2.50	June 13.... .80	Apr. 13 .3.00	Jan. 1.....1.50
Jennings	1.25	Jan. 1....2.50	June 13.... .80	Apr. 13 .3.00	Jan. 1.....1.50
Dayton	1.25	Jan. 1....2.50	June 13.... .80	Apr. 13 .3.00	Jan. 1.....1.50
Saratoga	1.25	Jan. 1....2.50	June 13.... .80	Apr. 13 .3.00	Jan. 1.....1.50
Somerset (Texas)	1.25	Jan. 26...2.00	May 28....1.25	.....	.....

WYOMING FIELDS

Elk Basin	$1.90	Jan. 1...$3.10	June 27...$1.00	Mar. 16.$3.10	Jan. 1....$2.35
Grass Creek	1.90	Jan. 1....3.10	June 27....1.00	Mar. 16..3.10	Jan. 1.....2.35
Big Muddy	1.40	Jan. 1....2.75	June 27.... .50	Mar. 16..2.75	Jan. 1.....2.00
Salt Creek	1.40	Jan. 1....2.75	June 27.... .50	Mar. 16..2.75	Jan. 1.....2.00
Lance Creek	1.90	Jan. 1....3.05	June 27.... .95	Mar. 16..3.05	Jan. 1.....2.30
Rock Creek	1.50	Jan. 1....2.85	June 27.... .60	Mar. 16..2.75	Jan. 1.....2.00
Osage	1.90	Jan. 1....3.05	June 27.... .95	.....	.....
Cat Creek, Mont	1.90	Nov. 16..1.90	Oct. 19.....1.50		

CALIFORNIA

SAN JOAQUIN VALLEY AND WHITTIER-FULLERTON FIELDS

Degrees	Price	Degrees	Price	Degrees	Price
14-17.9	$1.10	23-23.9	1.31	30-30.9	$1.95
18-18.9	1.11	24-24.9	1.38	31-31.9	2.05
19-19.9	1.13	25-25.9	1.46	32-32.9	2.15
20-20.9	1.16	26-26.9	1.55	33-33.9	2.25
21-21.9	1.20	27-27.9	1.65	34-34.9	2.35
22-22.9	1.25	28-28.9	1.75	35 and above	2.45
		29-29.9	1.85		

Earnings Of Phillips Are $6.58 Per Share

NEW YORK, March 9.—Net earnings of the Phillips Petroleum Co. before depletion and depreciation reserves, were $3,947,933 for the year ended Dec. 31, 1921, according to the company's annual report. A balance of $3,618,086 was transferred to the surplus after payment of $329,847 in dividends. Net earnings for the year were at the rate of $6 a share and during the last quarter at the rate of $8.32 a share. The consolidated balance sheet as of Dec. 31, shows:

ASSETS

	1921	1920
Plant and investments	$39,827,543	$35,659,144
Accounts receivable	1,016,140	1,460,576
Notes, acceptances receivable	195,295	179,890
Inventories	3,560,619	1,128,127
Deferred charges, other assets	315,618	729,471
Total assets	**$44,915,215**	**$39,157,209**

LIABILITIES

Deferred property payments	.....	$ 1,629,158
Gold debenture bonds	$ 3,500,000	.....
Notes and accounts payable	1,256,782	493,090
Depletion and depreciation	6,374,678	6,823,184
Accrued liabilities	161,051	207,159
Capital and surplus (600,000 shares no par common)	33,622,704	30,004,618
Total liabilities	**$44,915,215**	**$39,157,209**

Oklahoma P. & R. Has Deficit Of $1,800,000

NEW YORK, March 9.—A deficit of $1,846,581 was reported for 1921 by the Oklahoma Producing & Refining Co., a subsidiary of the Pure Oil Co., after interest taxes, depreciation and depletion. In 1920 the company reported a net income of $2,297,629 or the equivalent of 47 cents on each capital share of $5 after the same deductions. A comparison of the two years' income accounts follows:

	1921	1920
Gross Income	$5,928,894	$13,691,201
Expenses	4,605,528	7,267,149
Net earnings	$1,323,366	$ 6,424,052
Interest and taxes	196,713	272,928
Deple. and depre.	2,482,414	3,853,495
Deficit	$1,355,761	*$ 2,297,629
Preferred dividends	60,000	240,000
Common dividends	430,820	1,723,280
Deficit	$1,846,581	†$ 334,349
P. & L. deficit	$1,374,979	†$ 816,228

†Profit and loss surplus.
*Surplus.

The general balance sheet on Dec. 31, 1921, showed $248,775 cash on hand, against $609,399 at the close of the previous year; accounts and notes receivable, $483,921, against $842,813, and accounts and notes payable, $635,650, against $689,277.

Dividends were paid the first quarter of 1921 but passed thereafter. The company wrote off heavy losses and at the year end, according to the report to the stockholders, was running 2,500 barrels through the refinery at Muskogee, Okla., and operating 33 tank and service stations.

OIL FINANCE

Stocks Forecast Better Business

THE persistency of oil stocks on the New York Exchange in clinging close to their high marks for the year even after a reaction from the recent bull movement, augurs well for general business recovery if stocks may be taken as a barometer. Usually when stocks are buoyed by a professional traders' movement, the profit taking sales that follow, force down the prices of all shares involved. But such has not been the case with the oil leaders in the last month.

Almost steady gains have resulted in the establishment of many new high marks for 1922 even though the year opened on the tide of a bullish movement. A slight selling movement began early last week but had little effect on the market and closing figures were not far from the year's pinnacles.

Steel Price Increase Augurs Well

Another sign which may be taken to indicate a steady growth of business as we travel around the economic circle was an increase in prices of steel bars, shapes and plates by several of the leading Independent mills. Although the February statement of the United States Steel Corp. showed a decrease in the amount of unfilled orders at the end of that month, the raising of the price of certain products by the Independents must mean that the outlook for business recovery is far better than it has been in the last 18 months and that orders warranting a sellers' market are in sight.

The money situation also is much easier. This week's statement of the federal reserve banks shows a great decline in the "bills held" account in the "frozen credit" centers, there being declines of $6,300,000 at Atlanta, $2,000,000 at Minneapolis and $900,000 at Dallas. The call money rate on March 10 was as low as 3½ per cent in New York, the lowest with the exception of two days, since the middle of 1918.

Oil Shares Stay Close to Peak

While most stocks kept close to the recent highs on the New York Exchange Pacific and Phillips attained leadership and made new highs at 50 and 35⅜, respectively. Caddo equalled the high mark it had previously made and California Petroleum and Mexican Petroleum hovered around their year's records.

Pure Oil, reacting to the announcement that more common stock will be offered shareholders for subscription at $25 a share, declined from 35⅞ the week of March 3 to a new low for the year at 29⅞. Island also failed to attract any of the strength that marked most of the other oil shares and slid off to another low for both this and last years.

On the Curb, Gilliland continued to hold up because of more reports that certain companies were negotiating for part of its oil properties and that the receivership may be lifted.

Atlantic Refining Quoted Lower

Of the unlisted Standard Oil stocks, the bid and asked quotations on Atlantic Refining were off 50 and 30 points, respectively. Prairie Pipe Line was off 7 points and Standard of Ohio 10. Standard of Kentucky quotations were 25 and 30 points higher and Union Tank Car was up 5 points.

National Refining has continued to advance on the Cleveland Exchange and the bid and asked quotations are posted at 40 and 41. The last sale was at 40¼ or only 4¾ points below the 1921 high for the $25 common.

The foreign exchange list has been considerably weaker and sterling demand has receded almost 10 cents from the peak reached a week ago. Francs, lire, marks and other continental currencies have all reached downward. Although foreign moneys fell off upon the announcement of America's non-participation in the Genoa conference, bankers took a more optimistic view of the situation and the exchange market took a more favorable turn toward the close.

Financial Notes

Sinclair Consolidated Oil Corp.—Strength has been imparted to the 7½ per cent notes because of a proposal to replace them with long term bonds. The notes are redeemable at 104 on 60 days' notice if redeemed before May 15, 1922, and 1 per cent less for each year or fraction thereof, until they fall due May 15, 1925. They are convertible into 8 per cent cumulative preferred at one note for ten shares, par value $100. An announcement concerning the refinancing of the notes is expected to be made soon. They have been selling around 103.

Maracaibo Oil Exploration Corp.—Robert Stanley was elected a director at the annual meting at Wilmington, Del., to succeed the late W. A. Bostwick. Mr. Stanley is president of the International Nickel Co., as was Mr. Bostwick. W. E. S. Griswold was elected director to fill a vacancy. Other directors were re-elected.

Middle States Oil Corp.—Most of the Imperial Oil preferred and common shareholders have taken advantage of the consolidation offer and have exchanged their holdings for Middle States shares. The offer still is open.

Standard Oil Co. of Kansas.—All directors and officers were re-elected at annual meeting at Neodesha, Kans.

Prairie Pipe Line Co.—All directors and officers were re-elected at annual meeting at Independence, Kans.

Solar Refining Co. Reports 1921 Deficit

LIMA, O., March 10.—A $303,647 deficit after payment of $200,000 dividends was reported by the Solar Refining Co. for 1921. This loss is attributed by President J. G. Neubauer to the readjustment of inventories and the general business depression. The surplus from 1920 business was $698,206. The balance sheet as of Dec. 31 shows:

ASSETS

	1921	1920
Real estate	$ 64,422	$ 45,457
Incomplete construction	200,610	204,931
Plant less depreciation	1,536,094	1,380,178
Inventories	2,024,963	2,399,330
Insurance reserve	243,911	242,319
Accounts receivable	244,269	1,247,312
Cash, other investments	2,718,217	2,996,723
Total	**$7,032,488**	**$8,516,241**

LIABILITIES

Capital stock	$2,000,000	$2,000,000
Accounts payable	423,938	618,355
Liability for taxes		785,688
Surplus	4,608,550	5,112,198
Total	**$7,032,488**	**$8,516,241**

63 Oil Corporations Formed In February

NEW YORK, March 11.—New companies engaging in some branch of the oil industry and formed during February, totaled 63. Their combined authorized capital was $99,573,000. This compares with 92 in January with an authorized capitalization of $100,250,000.

Nineteen of the companies have an authorized capital of $1,000,000 or more. These are: Creole Development Co., $50,000,000; Brazos Valley Oil Co., $6,000,000; Globe Petroleum Corp. and Interior Oil & Development Co., $5,000,000 each; Roller Oil & Refining Co. and Trinity Oil Corp., $3,000,000 each; Amith Oil Co., Carson Petroleum Corp., and Caribbean & Gulf Corp., $2,000,000 each; Bestgas Refining Corp., $1,500,000; Arkansas Oil Co., Anglo-Domain Oil Corp., Louisiana Production Co., Latin-American Oil & Transport Co., Ormont Corp., Rosebrand Petroleum Corp., Shell Union Oil Corp., Turn Packer Oil & Gas Co., and Virkio Oil & Gas Co., $1,000,000 each.

The following list gives the names, states of incorporation, and authorized capitalization of the companies formed in February:

Alco Products Corp., Del	$150,000
Acorn Oil Corp., N. Y	125,000
Arkansas Platinum Development Co	350,000
Amith Oil Co	2,000,000
Arkansas Oil Co	1,000,000
Automobile Owners' & Drivers' Association	200,000
American International Metal Oils Explorations, Inc., Del	400,000
Anglo Domain Oil Corp., Del	1,000,000
American-Italian Petroleum Co., Del	100,000
Bolar Oil & Gas Co., Va	128,000
Brazos Valley Oil Corp., Del	6,000,000
Bestgas Refining Corp., Del	1,500,000
Consolidated Oil & Gas Co., Fla	500,000
Caribbean & Gulf Corp., Del	2,000,000
Cleveland-Muskogee Petroleum Co., Ohio	100,000
Crude Development Co., Del	50,000,000
Citizens Oil Corp., Del	500,000
Conn-Tex Oil Co., Del	300,000
Cities Service Oil Co. of St. Paul, W. Va	500,000
Criner-Dome Oil Co. Okla	100,000
Carson Petroleum Corp., Del	2,000,000
Ferree Oil & Gas Co	200,000
Gas Development Co., W. Va	150,000
Globe Petroleum Corp. Va	5,000,000
Harmleigh Oil Co., Texas	50,000
Hil-Tex Oil Co., Texas	250,000
Interior Oil & Development Co., Del	5,000,000
Jose Oil Co Calif	200,000
Josey-Radcliffe Oil Co., Del	100,000
Kentucky Development Co	250,000
Kelly Oil Co., Del	200,000
Louisiana Production Co., Del	1,000,000
Latin-American Oil & Transport Co., Del	1,000,000
Lion Oil & Refining Co., Mo	150,000
Lamton Gas Co., Del	400,000
Lovell Gasoline Co., Calif	250,000
Mutual Service Oil Co., Del	100,000
National Oil Development Co., Okla	200,000
Nashville Refining Co., Del	150,000
North Continent Oil Co., Del	700,000
Ormont Corp., Del	1,000,000
Plantation Consolidated Oil Corp., Del	150,000
Penn-Bedford Oil Co., Pa	100,000
Priesler Petroleum Co., Okla	50,000
Pioneer Oil & Gas Co., Del	750,000
Roller Oil & Refining Co., Del	3,000,000
Reed Oil Corp., Del	120,000
Republic Gas, Oil & Mineral Co., Del	200,000
Rosebrand Petroleum Co., Calif	1,000,000
Smithfield Oil Company, Del	100,000
Shell Union Oil Corp	1,000,000
Salino Oil Co., Ill	50,000
Syracuse Oil Engine Corp., N. Y	250,000
Schontz Oil & Gas Co., The, Ohio	100,000
Sawtelle-Santa Monica Oil Co., Calif	350,000
Turn Packer Oil & Gas Co., Del	1,000,000
Texas Wonder Pools Oil Corp., Tex	500,000
Tuttle Coal Corp., N. Y	300,000
Trinity Oil Corp., Del	3,000,000
Tampico Gas Co., W. Va	100,000
Virginia-Southern Oil Corp., Del	750,000
Virkio Oil & Gas Co., Del	1,000,000
Wataga Petroleum Co. Del	250,000
Total	**$99,673,000**

Oil Dividends

	Amount	Stock of Record Payable	
California Pet. q.	$1.75	Apr. 1	Mar. 20
Associated Oil q.	$1.50	Apr. 25	Mar. 20
Mountain Prod. q.	$ .20	Apr. 1	Mar. 15

Pure Oil Offers Stock To Holders Of Common

COLUMBUS, O., March 11.—The directors of the Pure Oil Co. have authorized the sale of 515,900 shares of common stock to the common shoreholders at par to finance the retirement of the company's outstanding notes and to cover investments in the Humphreys-Pure Oil projects. Common shareholders of record March 21 may subscribe in the proportion of one share for each four shares now held. Warrants will be mailed following the closing of the books March 21 and subscriptions must be made not later than April 10. President B. G. Dawes' letter to shareholders said:

"The board of directors, at a meeting March 7, 1922, appropriated out of the authorized common stock of the company, $12,897,500 common stock, being 515,900 shares of the par value of $25 each, to be disposed of for cash, in order to provide funds for the immediate retirement of the company's outstanding $7,980,000 serial notes, maturing June 1, 1922; June 1, 1923; June 1, 1924; June 1, 1925; and to reimburse its treasury for capital outlay in connection with an investment in the stock of the Humphreys Oil Co., the Humphreys-Pure Pipe Line Co., and the Humphreys-Pure Oil Refineries Corp."

White Shareholders Approve Merger Plan

NEW YORK, March 11.—Stockholders of the White Oil Corp., meeting March 6, approved the purchase of the oil properties of the United Central Oil Corp. from the United Gas & Electric Corp. under the plan published in the Feb. 22 issue of **National Petroleum News.** Patrick J. White will be chairman of the board and W. B. Emmert will be president.

Additional directors elected are: S. R. Bertron and Murray W. Dodge of the Bertron, Griscom Co., E. J. Connette of the United Gas Electric Corp., and Mr. Emmert. Messrs. Emmert, Bertron and Connette were added to the executive committee and Mr. Dodge to the finance committee.

Shareholders of March 13 record are given the right to subscribe to 102,186 shares additional common at $10 in the proportion of 15 per cent of their holdings. The committee on securities of the New York Stock Exchange ruled that transactions in White common, unless made specifically for cash, should be ex-rights from March 9. The right to subscribe expires March 28.

PITTSBURGH, March 11.—Twenty shares of Pure Oil were sold on the Pittsburgh Exchange this week at 31.

Crude Price Reduction Cuts Houston Earnings

HOUSTON, March 10.—The average price of crude oil marketed by the Houston Oil Co. in 1921 was less than 50 per cent of what it was in 1920, according to the annual report of President Henry J. Bowdoin. The 1920 average was $2.99 a barrel but in 1921 it was only $1.36. The price in 1921 fluctuated from $3.75 to as low as 40 cents in some fields. This resulted in the cutting of the net profits from $1,088,200 in 1920 to $766,852 in 1921.

The Southwestern Settlement & Development Co., the unincorporated trust that holds the fee in lands to which the Houston Company owns the oil and gas rights, operated at a loss of $239,794 last year and the $136,792 surplus at the end of 1920 was entirely eaten up. The unusual depression in agricultural products caused the Southwestern to show little activity, Edwards Whitacer, president of the trustees, reported. Houston's balance sheet shows:

ASSETS	1921	1920
Oil rights, leases, equipment, less depreciation	$28,518,025	$32,822,166
Due from S. W. Settlement & Development Co.	4,851,352	37,900
Kirby Lumber (Suspense)		644,360
Timber notes & interest	2,949,750	
Cash in hands of trustees	18,829	733,419
Cash in Escrow		976
Oil on hand	450,250	
Notes, accounts receivable	404,543	418,511
U. S. Securities	501,121	1,121
Cash on hand	464,256	1,059,569
Certificates of interest		902,873
Deferred charges	21,345	20,560
Total	**$38,179,473**	**$36,641,455**
LIABILITIES		
Common outstanding*	$24,968,600	$25,000,000
Preferred outstanding**	8,947,600	8,947,000
Reserve for cumulated dividends under readjustment	755,709	
Accounts payable	195,495	53,048
Accrued taxes	202,274	263,571
Unearned income on turpentine contracts		19,760
Litigation reserve		976
Timber certificates		300
Surplus	3,109,794	2,356,200
Total	**$38,179,473**	**$36,641,455**

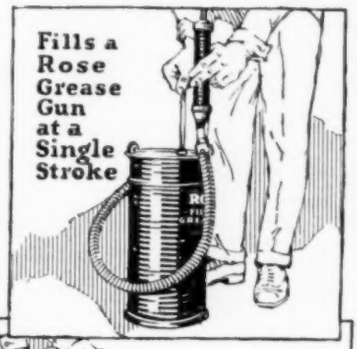
*$31,400 of certificates of beneficial interest therein, held in treasury, deducted.
**$246,600 stock retired and $806,000 certificates of beneficial interest therein, held in treasury, deducted.

PITTSBURGH, March 10.—A deficit of $11,333.90 was suffered by the Crescent Pipe Line Co., the annual report shows. The balance sheet as of Dec. 31 follows:

ASSETS	1921	1920
Plant, less Depreciation	$ 820,636	$ 838,777
Material and Supplies	10,445	19,225
Cash, Accounts Receivable, Other Investments	2,612,312	2,652,935
Total	**3,443,394**	**3,510,837**
LIABILITIES		
Capital	$3,000,000	$3,000,000
Accounts, Taxes Payable	149,949	206,058
Surplus	293,445	304,779
Total	**$3,443,394**	**$3,510,837**

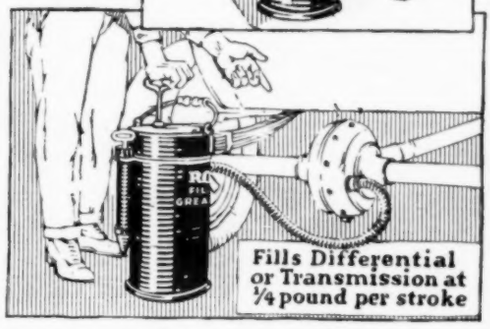
ROSE GREASE BUCKET

FOR convenience in handling grease the Rose Fil-A-Gun Grease Bucket has no equal. It's a labor saver, a time saver, and a money saver. If you handle grease you need it. It is quick and clean and prevents costly waste. Holds 25 pounds of grease and pumps through a steel hose direct to the point where needed at ¼ lb. per stroke. The Rose Taper Nozzle Grease Gun included with every Grease Bucket can be filled with a single stroke of the bucket pump.



A Labor Saver

The quickest and easiest way to fill differentials, transmissions, etc., is with the *Rose Fil-A-Gun Grease Bucket*. It is light and easy to move about. In the garage one man can care for a whole line of cars in a few minutes. A few quick strokes are enough for each car. It's mighty handy around the garage, the filling station, around trucks and tractors—wherever grease is used you'll find Rose Grease Buckets. List $12.50. Write us for further information.



Frank Rose Manufacturing Co., Hastings, Nebr.

Form 1201

CLASS OF SERVICE	SYMBOL
Day Message	
Day Letter	Blue
Night Message	Nite
Night Letter	N L

If none of these three symbols appears after the check (number of words) this is a day message. Otherwise its character is indicated by the symbol appearing after the check.

WESTERN UNION TELEGRAM

NEWCOMB CARLTON, PRESIDENT GEORGE W. E. ATKINS, FIRST VICE-PRESIDENT

CLASS OF SERVICE	SYMBOL
Day Message	
Day Letter	Blue
Night Message	Nite
Night Letter	N L

If none of these three symbols appears after the check (number of words) this is a day message. Otherwise its character is indicated by the symbol appearing after the check.

RECEIVED AT ROSE BLDG., 2040 EAST 9TH STREET, CLEVELAND

B 376CH 8 1922 MAR 13 PM 5 16

G B CHICAGO ILL 354P 13

NATIONAL PETROLEUM NEWS
CAXTON BUILDING CLEVELAND OHIO

ALL MARKETS STRONG PREDICT GASOLINE SHORTAGE
THIS SEASON

TAXMAN REFINING CO.

J M CARSON PRESIDENT

How Oil Shares Moved Last Week

New York Stock Exchange

1921 High	1921 Low	1922 High	1922 Low	Par Value		Week's Sales	Op'ng Mar.3	Week's High	Week's Low	Close Mar.10	Net Ch'ge
19¾	7¾	12¼	10¼	$100	Caddo Oil	5,500	11	12¼	10½	12	+1
50¾	25	54½	43⅜	100	Calif. Pet	20,900	52⅛	53½	50⅛	53	+1¼
44⅞	22½	36¼	31⅝	N.P.	Cosden & Co	34,300	35⅞	36½	34¼	36¼	+ ½
78¾	39½	65¾	55⅛	100	General Asphalt	42,900	63½	63½	58½	61	−2⅜
86	40½	79¼	70	100	Houston Oil	5,000	77⅜	77⅜	74¼	76	−1⅜
15¾	6½	10	5¼	10	Indian Ref	1,100	7½	7½	7	.....	.....
26	5½	17½	12⅞	50	Invincible Oil	33,700	16¾	17¼	15⅞	17⅛	+ ⅜
4¾	2	3	1⅜	10	Island Oil	35,300	1⅞	1⅞	*1⅛	1¾	− ⅛
30⅞	12⅝	29	22⅝	N.P.	Marland Oil	10,100	26	26	24⅞	25½	− ¾
167¼	84½	127	106¾	100	Mex. Pet	72,200	125¾	126¾	122¾	124¼	−1¼
16½	10	13¾	11⅝	10	Mid States Oil	31,100	13½	13⅝	13	13⅛	− ¼
4	1¾	3	2¾	5	Ok. Prod. & Ref	5,700	2¾	2¾	2½	2⅝	0
50⅜	27½	50	44⅜	N.P.	Pacific Oil	32,400	49⅛	†50	47¼	50	+1⅛
71¾	38⅛	57¼	48⅞	50	Pan-American Pet	24,500	57½	57⅝	55½	56⅞	− ⅝
79⅜	34⅛	52¼	44	50	Pan American B	6,800	51⅞	52⅛	50½	51¾	+ ⅛
84¼	16	35⅛	29¼	N.P.	Phillips Pet	18,700	34	†35⅛	33¾	34⅞	+1⅛
14⅜	5¼	12¼	7	25	Pierce Oil	11,900	7⅝	7¾	7⅛	7½	+ ⅜
78	30½	71	39	100	Pierce Oil pf	1,000	46	46	44	.....	.....
34½	20⅜	30¼	24⅛	50	Prod.& Ref	1,200	26½	27¼	26⅛	26¼	0
40⅜	21½	38⅝	29⅞	25	Pure Oil Co	110,900	34⅛	34⅝	*29⅞	30½	−4
69⅜	40½	54⅝	47¼	13.40	Roy. Dutch N. Y.	15,300	53	53½	51¼	53	0
49	30⅞	43	35⅝	2	Shell Transport	1,700	.....	40⅝	39½	.....	.....
28⅜	16⅛	23½	18¾	N.P.	Sinclair Consol	51,400	22⅝	23⅛	20½	22⅝	− ½
98½	67¾	98½	91	25	S. O. California	3,800	96	97	94½	95¾	− ⅞
192¼	124½	183	169¼	25	Stand Oil N. J	2,300	179	181	175⅛	177¼	−3½
114½	104¾	115⅞	113⅛	100	do pfd	6,100	114⅞	115	114⅛	115	+ ½
13¼	3¼	6⅝	5	N.P.	Superior Oil	4,600	5⅛	5¼	5⅛	5½	0
48	29	46¾	42¼	25	The Texas Co	27,700	45⅝	45⅞	44¼	45⅝	− ⅛
36⅞	19¼	28⅜	23	10	Tex. Pac. C & O	11,100	26½	27⅜	24⅜	26¾	− ⅛
13	6	11	7½	N.P.	Transcont. Oil	37,000	9	9¼	8⅞	9¼	+ ¼
25½	15⅜	20⅝	17⅛	N.P.	Union Oil	5,600	17¼	18¼	17¼	17¾	+ ⅜
17⅜	7	10⅜	7½	N P.	White Oil	11,200	9⅛	9⅞	8⅞	9½	+ ½

†New High
*New Low

New York Curb Market

1921 High	1921 Low	1922 High	1922 Low	Par Value		Week's Sales	Op'ng Mar .3	Week's High	Week's Low	Close Mar.10	Net Ch'ge
10¾	3½	4¼	3¼	25	Carib Synd	5,900	4	4	3⅝	3¾	− ¼
31½	11¼	21½	17	N.P.	Cities Ser. Bkrs	4,800	21⅛	21¼	20	20½	− ¾
2¼	1⅛	1⅞	1	5	Federal Oil	16,400	.....	1⅛	1	1	0
2⅜	1	1⅜	.83	10	Glenrock Oil	6,900	.....	1⅛	.97	1	0
24	1	9⅜	4	N. P.	Gilliland	16,800	8⅝	†9⅝	8¼	8¼	− ⅝
17¾	9⅛	17⅛	14¼	5	Inter. Pet	10,300	15⅛	15⅛	14½	14⅝	− ⅜
18⅛	15⅛	26½	14¼		Kirby Pet	29,000	.....	24⅝	22⅛	23¼	−1
15⅝	6⅜	10⅜	8⅛	10	Merritt Oil	2,900	.....	9¼	9¼	9⅝	+ ⅛
36	33	42	28½	N. P.	Mex. Seaboard	3,600	.....	30⅞	29	29	−1
.....	.....	12⅛	9⅞	10	Mountain Prod	2,700	.....	11½	11	11⅛	0
3¼	1	2¼	1½	5	N. Amer. Oil	1,400	.....	2	1¾	1¾	− ¼
7	3	6	4⅞	10	Pennok. Oil	1,400	.....	5⅞	5½	5½	− ⅛
6⅝	2⅝	6	4½	10	Prodrs. & Refrs	300	5⅝	5⅝	5¾	.....	.....
5⅛	2¾	3¼	2⅞	5	Sapulpa	1,300	2⅞	3	2⅞	2⅞	− ⅛
15⅜	9¼	14½	12½	10	Salt Creek Prod	2,600	13¼	13⅝	13⅛	13⅜	+ ⅛
13⅜	5¼	12⅞	9⅜	N.P.	Simms Pet	8,700	10⅛	10⅜	9⅞	10⅜	0
9½	2½	5½	4¼	10	Skelly	10,200	.....	5¼	5	5	− ⅜

†New High
*New Low

Pittsburgh Stock Exchange

1921 High	1921 Low	1922 High	1922 Low	Par Value		Week's Sales	Op'ng Mar.3	Week's High	Week's Low	Close Mar.10	Net Ch'ge
19	6½	10½	7	10	Arkansas Nat. Gas	2,345	8⅞	8⅞	8⅝	8⅞	0
35	17⅛	23⅞	20	25	Barnsdall Corp. B	.....	.....	.....	.....	.....	.....
26	16¾	24½	20	25	Lone Star Gas	280	24½	24	23¾	23¾	− ¾
53	42	47½	45⅝	50	Man. Light & Heat	776	46½	47	46½	46¾	+ ¼
3⅝	1¼	3	2¼	5	Marland Refining	240	2¼	2¼	2⅛	2½	+ ¼
30¾	17½	21	19	25	Okla. Nat. Gas	1,453	20	19¾	19½	19¾	− ¾
24	11½	19	16	1	Ohio Fuel Oil	255	.....	16¼	16¼	16¼	0
50	40	48½	44½	25	Ohio Fuel Supply	1,062	47⅞	48⅞	47⅞	48⅛	+ ¼
3½	1⅞	2¾	2½	5	Ok. Prod. & Ref	.....	.....	.....	.....	.....	.....
9¼	16	11	12	5	Pittsburgh Oil Gas	25	7	7	7	7	0
.....	.....	10¾	8¼	10	Salt Creek Con	485	9½	10	9½	10	+ ½
27	25	29⅞	6⅛	N.P.	Tidal Osage Oil	380	12	12	11⅛	11½	− ½
12½	10¼	10½	8	N.P.	Transcont. Oil	.....	.....	.....	.....	.....	.....
120	107½	119	115½	100	Union Nat. Gas	85	125	128	127	127	+ 2
66	60	77⅛	64½	100	Columbia Gas	.....	.....	.....	.....	.....	.....
16⅛	10⅞	13⅛	13⅛	10	Middle States	.....	.....	.....	.....	.....	.....

Pittsburgh Curb Market

1921 High	1921 Low	1922 High	1922 Low	Par Value		Week's Sales	Op'ng Mar.3	Week's High	Week's Low	Close Mar.10	Net Ch'ge
8½	1	3⅛	2	5	Duquesne Oil	3,560	2¼	2½	2⅛	2⅛	+ ⅛
.24	.05	.09	.05	1	Homer Union Pet	4,050	.....	.06	* .05	.05	.....
.45	.16	.35	.18	1	Mex.-Wyo. Oil	16,100	.23	.21	*.18	.18	— 05
.12	.01	.06	.03	1	Twin City Oil	.....	.....	.....	.....	.....	.....
7	2	1½	1⅜	10	Colombia Synd	1,000	1⅜	1½	1½	1½	+ ⅛
11½	5	7	6½	10	Marshall Oil	30	6½	6½	6½	6½	0

†New High
*New Low

Standard Oil Stocks

Standard Oil securities are dealt with to only a small extent on the New York curb market, the great majority of sales being made over the counters of investment bankers. For this reason no record can be obtained of the total volume of sales from day to day to indicate the activity of any particular stock. Below are bid and asked quotations prevailing on the curb market at the close of business on the date given:

	Mar.10 1922 Bid	Asked	1921 High	Low
Anglo-American	17	17½	22	14¼
Atlant.cRefg	900	950	1225	820
BuckeyePipe	90	92	88	70
Continental Oil	127	132	128	100
Galena Signal	43	47	53	29
Illinois Pipe	174	179	195	140
Ohio Oil	268	273	300	222
Penn-Mex	25	28	29	17½
Prairie Oil & Gas	545	550	598	385
Prairie Pipe	230	235	242	155
South Penn	180	185	266	150
S. O. Indiana	86¾	87¼	93⅞	60¾
S. O. Kansas	520	540	635	520
S. O. Kentucky	480	490	445	370
S. O. New York	372	377	393	297
S. O. Ohio	380	390	429	329
Union Tank Car	100	105	116	80
Vacuum Oil	337	342	355	235

Unlisted Stocks

By Carl H. Pforzheimer & Co.

Mar. 10

	Par Value	1922 Bid	Asked	1921 High	Low
Gulf Oil Corp	$100	367	375	392	360
Humble Oil & Refg	100	217	220	261	150
Magnolia Petroleum	100	155	158	165	110

New York Bonds

	Week Ended Mar. 10 High	Low	Last
Invincible 8s	93	91½	92½
Mexican Pet. sf 8s	102½	101⅞	102½
Pan-American 7s	97½	97⅛	97½
Pierce 8s	97	95½	96
Prod & Ref 8 war	102	101¼	102
Sinclair 7½s	103	102¼	102⅞
Standard of Calif 7s	106¾	105¾	106¼
Tide Water 6½s	102¼	101⅝	101⅝
Union Tank 7s	103½	103	103⅛

Miscellaneous Stocks

The following are bid and asked prices ruling at the close of business on the date given, on the stock markets indicated by reference mark

	Par Value	Mar.10 1922 Bid	Asked	1921 High	Low
Cities Serv (a)	$100	191	192	256	101
do p'd (a)	100	....	.....	71	55
Ntl. Refg (a)	25	40	41	45	26½
do. pfd. (a)	100	113	.....	118½	107
Par. Refg. (a)	25	10	11	25½	9½
do pfd. (a)	100	50	.....	96	95
Ind'homa Refg do(b)	5	3.62	3.75	7⅛	2
Marland Refg. (b)	5	2.62	3.25	30⅞	12⅛

(a) Cleveland (b) St Louis.